Report of the Regional Co-ordination Meeting for the North Atlantic (RCM NA) 2015

Hamburg, Germany
14 – 18 September 2015

This page intentionally left blank

Table of Contents

1. Executive summary

The 12th RCM North Atlantic was held in Hamburg (Germany) 14-18 September 2015. The main purpose of the RCM is to coordinate the National Programmes (NP) of the Member States (MS) in the North Atlantic region. National Programmes for 2011-2013 have been rolled over for the period 2014-2016. Therefore, the main focus at this year was to improve regional data collection, analysis and storage and the evolution towards Regional Coordination Groups (RCG).The impact of the introduction of the landing obligation and preparations for its implementation was also discussed taking into account possible changes in scientific sampling schemes. The participation of four National Correspondents make possible to address National administration issues related to the oncoming EU MAP.

A data call was launched by the chairs of the RCM NA, RCM Baltic and RCM NS&EA where MS were requested to upload data for 2014 in the regional database (RDB Fishframe) hosted by ICES. All MS except France and Northern Ireland complied with this request on landings and effort data. All MS except France uploaded sample data for 2014. French data were available for the meeting using a web base interface. Evaluation of the data call for submission data to the RDB revealed the numbers of species in landings and sample data and the numbers of metiers in effort data are in general data stable. RCM NA see big improvements in the work MS are doing regarding data calls coming from a situation where some countries didn´t provide any data to a new scenario where everyone is providing data; at the same time the overall quality has significantly improved, which is a large step forward.

Regional data collection, analysis, storage and the evolution towards Regional Coordination Groups (RCG).

Optimizing and harmonizing fisheries management across MS is dependent on improving regional coordination. The group discussed various needs and aspects relevant for facilitating future work of the RCM. Future tasks for the RCM don't differ much from the current tasks. The discussion was focused on the structure of the RCGs, funding and short term needs to address tasks in an efficient way in the future.

Regional coordination encompasses many different aspects, ranging from regional cooperation, sampling design, quality control procedures, data storage and analysis to the actual coordination, reporting and accountancy. Current task sharing and coordination procedures as well as future mechanisms are partially covered under the current MARE study 2014/19 (FISHPI). The project and its progress were presented to the group. The outcomes of this study will demonstrate future procedures based on case studies.

As substantial effort and costs are involved to facilitate the process of regional coordination, the group highlighted the importance to access to budgets to cover these costs. Development of the RDB is also crucial for future work of the RCGs; funds are needed for the development.

Additionally, RCM NA identified 4 supra regional topics where work can be done intersesionally in cooperation with the rest of RCMs: (1) Cost sharing of funding surveys; (2) Impact of landing obligation; (3) reviewing the ICES list of data needs ; and (4) review and follow up on RDB upload logs.

Due to the importance to moving to a regional catch sampling scheme, an exercise was realised using the distribution of landings by harbour and fleet segment as a proxy of sampling frames that could hypothetically operate in a regional probability based design. The exercise was based on landing weight, for the simple reason that this was the only complete variable that was available for all the various national data sets. A regional sampling design can however be optimized in any number of ways (e.g. by landings value, by métier diversity, by species diversity, by number of fishing trips). The aims and aspirations of the end users need to be defined to ascertain which is most appropriate. It is one of the overriding advantages of a regional sampling design (as opposed to the aggregation of national designs) that the overall coverage can be set out to achieve regional goals.

The RCM NA analyzed and discussed the main achievements of WKISCON2. It was clear that concurrent sampling at-sea is a long-established practice in most MS and that, where it was applied, concurrent sampling of fishing trips on-shore resulted in substantial increases in species collected without jeopardizing the main uses of data. Stock assessment and discard estimation and management are the major current uses of concurrent sampling data. Concurrent sampling has also been providing other benefits than its initial reason, such as advice to local, national and international authorities, research on MSFD descriptors, mixed fisheries and gear interactions and on mortality of rare species, data-poor stocks and PETS.

It was clear that concurrent sampling being a statistically valid method for species selection which has proven to fulfil different end-users needs, implementation constraints hinder concurrent sampling on-shore. Thus, in order to meet end-users needs and to overcome the constraints that may arise from the implementation of concurrent sampling in some countries, particularly on-shore, RCM NA considers that different statistically sound approaches other than concurrent sampling must be developed to be tested in the field, so they may provide useful alternatives.

Introduction of the landing obligation and its impact in the implementation in scientific sampling schemes.

In terms of evaluating the impact of the introduction of the Landing Obligation (LO) regulation on data collection, there is only limited experience as the current implementation only covers Pelagic and Industrial fisheries in this region but MS have or are preparing for the implementation where they can.

It is currently perceived that this year is a transition period for the pelagic fisheries and that these fisheries and control agencies are not fully implementing the LO (managing but not enforcing). As a result MS did not have a lot of comments on the current year and are in general preparing for next year. During the meeting it was decided to gather further information to address this issue by getting

member states who were present to fill in a table on “Monitoring the impact of the landing obligation on data collection in the North Atlantic region” outlining the current state of play.

This table could be considered as a live document which should be filled in year by year as the Landing Obligation is phased in. This table will then serve to provide an historical record as countries can document the changes year by year and will also provide guidance and act as a learning tool to all member states on how other countries are implementing the LO.

National administrations

The group discussed the proposal for task sharing and criteria for joint surveys. RCM NS&EA and RCM NA 2014 discussed a cost model for the present joint MS financed surveys and for future joint surveys. In addition to this model, the RCM NA 2015 highlighted that four categories of surveys should be considered in relation to task sharing and criteria for joint surveys.

In the light of cost sharing, the group commented that the current DCF recast proposal refers to ‘exploitation of stocks’ rather than EU TAC or landings. Given the relative stability, EU TAC shares are the preferred basis for sharing costs. The exploitation of stocks shall be interpreted as EU-TAC share as a default. In specific cases, RCGs can in the future agree on different interpretation where needed and feasible.

Fully agreement among the group was concerning to the engagement and participation of National Correspondent (NC) in this meeting. The future role of the NCs in the RCG context was discussed, indicating a formal role for the NCs in the RCG process to approve and agree on regional arrangements. However, the current recast of the DCF doesn’t include the formal involvement of the NCs in the coordination procedures and meetings. RCM NA highlights this as potentially problematic for the foreseen formal role of the NCs.

Other items on the agenda were the consideration of the follow up of relevant recommendations made last years by Liaison Meeting and presentations and relevant development from ICES, EC and SC-RDB.

2. Introduction

2.1 General

The 12th RCM North Atlantic was held at the Thünen Institute in Hamburg, Germany. Participants joined the meeting in different settings. Besides sampling experts, national correspondents and ICES were represented. No DGMARE (Commission) representatives attended the meeting.

The meeting was chaired by Jose Rodriguez and Estanis Mugerza. There were 3 main subgroups dealing with sampling, landing obligation and national administrations/EU MAP. Manuela Azevedo, Jon Elson, Lucia Zarauz/Mike Armstrong and Sieto Verver acted as subgroup chairs.

RCM NA thanks the Thünen Institute for inviting the meeting, the excellent facilities offered are appreciated. RCM NA wishes to thank ICES for hosting and organizing the SharePoint in a very efficient way.

2.2 Background

The EU Data Collection Framework (DCF; EC 2008a, 2008b, 2008c, 2010) establishes a framework for the collection of economic, biological and transversal data by Member States (MS). This framework provides the basic data needed to evaluate the state of fishery resources and the fisheries sector and the impact of the fisheries on the marine ecosystems.

The Regional Coordination Meeting for the North Atlantic (RCM NA) proceeds from the Data Collection Framework (EC Regulation no. 199/2008) establishing a community framework for the collection, management and use of data in fisheries sector for scientific advice regarding the CFP. According to this regulation and without prejudice to their current data collection obligations under EU law, Member States (MS) shall collect primary biological, technical, environmental and socio-economic data within the framework of a multi-annual national programme drawn up in accordance with the EU programme.

According to EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its technical Decision 2010/93/UE specifying practical aspects for data collection, actions planned by MS in their national programme shall be presented according to the predefined regions.

The coordination of the data collection are carried out at a regional level and specific Regional Coordination Meetings (RCMs) are in charge of facilitating this and these meetings aim to identify areas for standardisation, collaboration and task sharing between MS. RCMs are held annually and involve participants from each MS involved in the DCF.

At present, five RCMs are operative:

- the Baltic Sea (ICES areas III b_d),

- the North Sea (ICES areas IIIa, IV and VIId), the Eastern Arctic (ICES areas I and II), the ICES divisions Va, XII & XIV and the NAFO areas.
- the North Atlantic (ICES areas V-X, excluding Va and VIId),
- the Mediterranean Sea and the Black Sea
- the long distance fisheries: regions where fisheries are operated by Community vessels and managed by Regional Fisheries Management Organisation's (RFMO) to which the Community is contracting party or observer.

The regional split over 5 regions allows for coordination while taking into account regional aspects and specific problems. Regional Coordinating Meetings (RCMs) are held annually. The key objectives of the RCMs are to identify areas for standardisation, collaboration and cooperation between MS.

RCM NA and RCM NS&EA Agreement
RCM NA 2014 was informed that ICES was moving from 2015 onwards to align ICES Ecoregions with MFSD ecoregions. This supposes VIIe will be part of the North Sea ecoregion instead of the Celtic Sea and West of Scotland ecoregion. RCM NA 2015 considered, after consulting RCM NS&EA, to align the geographical scope of both RCMs in accordance with this change in order to facilitate coordination with end-users needs.

A Liaison Meeting (LM) between the chairs of the different RCMs is being held annually to analyse the RCM reports in order to ensure overall co-ordination between the RCMs.

2.3 Legal requirements

Within the DCF, the role of the RCMs and their tasks in regional coordination are clearly defined in various articles of the Council regulation.

Council Regulation 199/2008 Article 5: Coordination and cooperation

> 1. Member States shall coordinate their national programmes with other Member States in the same marine region and make every effort to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same marine region. For this purpose the Commission may organise Regional Coordination Meetings in order to assist Member States in coordinating their national programmes and the implementation of the collection, management and use of the data in same region.
>
> 2. In order to take into account any recommendation made at regional level at the Regional Coordination Meetings, Member States shall where appropriate submit amendments to their

national programmes during the programming period. Those amendments shall be sent to the Commission at the latest two months prior to the year of implementation.

Commission Regulation 665/2008 Article 4: Regional co-ordination

1. The Regional Coordination Meetings referred to in Article 5(1) of Regulation (EC) No 199/2008 shall evaluate the regional co-ordination aspects of the national programmes and where necessary shall make recommendations for the better integration of national programmes and for task sharing among Member States.

2. The Chair of the meeting shall be designated by the Regional Coordination Meeting in agreement with the Commission for a two year period.

3. The Regional Coordination Meetings may be convened once a year. The terms of reference for the meeting shall be proposed by the Commission in agreement with the Chair and shall be communicated to the national correspondents referred to in Article 3(1) three weeks prior to the meeting. Member States shall submit to the Commission the lists of participants two weeks prior to the meeting.

Commission Decision 2010/93/EU

Where precise requirements for the RCMs are made and regional aspects are addressed.

2.4 Terms of Reference

1. Review progress since 2014 following up the 11thliaison meeting report.

2. Review feedback from end users, and expert groups, to include: GFCM WG on DCRF, WGCATCH 2014, RDB SC and WKRDB 5, PGDATA, PGMED, STECF, WKISCON2, ICES (main issues to be clarified), WK on trans variables, Zagreb 2015), NC meetings.

3. Regional data collection, analysis and storage and the evolution towards RCGs.

    a) Consider the progress of the “strengthening regional cooperation in data collection” mare/2014/19, and possible implications.
    b) Review progress in data quality screening, harmonisation of national and regional data checking procedures.
    c) Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls
    d) Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods.
    e) Discuss design-based sampling: state of play of which MS are using it or plan to use it.

f) Analyse the RCM data call for the RDB 2014 data (analysis to be done as much as possible prior to the meeting, and the type of analysis e.g. ranking of ports to sample, to be determined beforehand).
g) Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling, and how such groups can be organised, coordinated, and funded e.g. joint surveys, sampling plans for MSFD variables, data quality scrutiny groups, international sampling frames.

4. Review proposal for task sharing and criteria for joint surveys.

5. Identify any amendments to NP needed in 2016.

6. Consider future funding mechanisms to continue strengthening regional cooperation

7. Landing Obligation.

a. Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.
b. The operation of at-sea observer programmes, and role of scientific observers.
c. Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.
d. The generation of catch estimates derived from sampling programme data.
e. Experiences of on-shore sampling of landed discards.
f. Review progress from last year's recommendations

8. National Administrations
a) Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.
b) Harmonisation of control agency data collection and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.
c) Harmonisation of catch data recording e.g. metiers.
d) The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.
e) Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.

9. Metiers.

Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to

sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context.

10. Future multi-annual programme for data collection

    a. Propose list of research surveys that should be carried out in the region in 2016.

    b. Review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries

    c. Review and comment on list of proposed stocks& biological variables to be included in EU MAP.

    (The Commission will provide background documents/input for this ToR)

2.5 Structure of the report

The report address the terms of references as follows:

ToR	section
1	3
2	3
3	3,4,5,6,7
4	9
5	3
6	9
7	8
8	9
9	5,10
10	Annex 3

2.6 Participants

Table 2.6.1. List of participants

Name	Country	email	Participation 2015
Ana Juarez	Spain	ana.juarez@cd.ieo.es	full time
Jose Rodríguez	Spain	jose.rodriguez@st.ieo.es	full time
Mari Moset Martinez	Spain	smosetma@magrama.es	full time
Matt Elliot	UK (England)	matt.elliott@marinemanagement.org.uk	part-time
Jon Elson	UK (England)	jon.elson@cefas.co.uk	full time
Mike Armstrong	UK (England)	mike.armstrong@cefas.uk	full time
Sieto Verver	Netherlands	sieto.verver@wur.nl	full time
Lucia Zarauz	Spain	lzarauz@azti.es	full time
Estanis Mugerza	Spain	emugerza@azti.es	full time
Helen McCorminck	Ireland	helen.mccormick@marine.ie	full time
Leonie O´Dowd	Ireland	leonie.odowd@marine.ie	full time
Jens Ulleweit	Germany	jens.ulleweit@ti.bund.de	full time
Christoph Stransky	Germany	christoph.stransky@ti.bund.de	part-time
Margaret Bell	Scotland	m.bell@marlab.ac.uk	full time
Alastair Pout	Scotland	a.pout@marlab.ac.uk	full time
Christian Dintheer	France	christian.dintheer@ifremer.fr	full time
Manuela Azevedo	Portugal	mazevedo@ipma.pt	full time
Marina Dias	Portugal	mdias@ipma.pt	full time
Dalia Reis	Portugal	dreis@uac.pt	full time
Mette Bertelsen	ICES	mette@ices.dk	part-time (2 days)
Henrick Kjems-Nielsen	ICES	henrikkn@ices.dk	part-time (2days)
Bas Drukker	Commission	bas.drukker@ec.europa.eu	videoconference
Venetia Kostopoulou	Commission	Venetia.KOSTOPOULOU@ec.europa.eu	videoconference
Els Torreele	Belgium	els.torreele@ilvo.vlaanderen.be	by correspondence

2.7 Host

The meeting took place in the Institute of Sea Fisheries in Hamburg, Germany. The Institute of Sea Fisheries conducts ecological and economic research to provide the scientific basis for maintaining the fish stocks and ecosystems in the North Sea and North Atlantic, ensuring sustainable aquatic food supply and integrating multiple ocean uses into an ecosystem approach to ocean management.

The Institute of Sea Fisheries was founded in 1910 as part of the Museum of Natural History in Hamburg. From 1945 onwards the institute was one research unit within the Federal Research Centre of Fisheries. Since 2008 the Institute of Sea Fisheries is part of the Johann Heinrich von Thünen Institute, Federal Research Institute for rural areas, forestry and fisheries – Thünen Institute in brief – which consists of all together 14 specialized institutes that carry out research and provide policy advice in the fields of economy, ecology and technology.

3. Progress in regional co-ordination since the 2014 RCM

Due to the delayed introduction of the revised DCF, the Commission decided in 2013 to carry over the National Programmes from the Member States for 2011-2013 unchanged to the period 2014-2016 the need for co-ordination of their programmes has therefore been limited.

Any amendments to the NP have been identified by the RCM NA.

3.1 Follow-up of recommendations from the 2014 Liaison meeting

A Liaison Meeting (LM) between the Chairs of the RCMs, the chair of ICES PGCCDBS, the chair of PGMED, the chair of the Regional Database Steering Committee, the ICES representative, the Chairs of STECF EWG's DC-MAP and PGECON and the European Commission is held annually to analyse the RCMs, PGCCDBS, PGECON and PGMed reports in order to ensure overall coordination between the RCMs. The LM prioritises RCMs' recommendations and reviews the follow up actions required and makes recommendations to the Commission

The 11th Liaison Meeting was held at DG Mare, Brussels from 8th to 9th October 2014. The main outcomes and recommendations from the RCMs, PGECON, PGCCDBS and PGMed were presented by the respective chairs and discussed by the LM.

The 11th Liaison meeting considered all recommendations made by the RCMs and PGECON. These recommendations are listed below. The recommendations are complemented with comments from the RCM NA 2015 in the field 'follow up in 2015'.

LM 1. Regional Database – Consultation of RCMs	
RCM Baltic and RCM NS&EA 2014 Recommendation 1	RCM NS&EA recommends that the RCMs are consulted before the Commission takes decision on future database structure for DCF data and that the future RCG needs are properly considered
Justification	The RDB is the backbone in present regional coordination of data collection between MS and the RCM Baltic foresee that the importance of a well-functioning database adapted to the needs of the regional coordination group will be even more crucial in the future when moving towards regional programs, design based approach as well as stronger focus on quality assurance and end-user interactions. It is thereby of urgent importance that the RCM needs are carefully considered when the Commission choose system for storage and management of DCF data.
Follow-up actions needed	COM to properly consult RCMs before decisions are taken on future database structures and to properly consider RCM/RCG needs
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	2014
LM comment	The Commission has committed to consult the RCMs
Comments – RCM NA 2015	RCM NA (nor RCM NA chairs) did not receive any information from the EC after the presentation of the 4 scenarios in 2014. It seems the issue was raised at the meeting with NC, but RCM NA was not sure any further developments was done.

LM 2. Implications of the landing obligation - Scientific data collection and at-sea sampling	
RCM NS&EA 2014 Recommendation 2	RCM NS&EA recommends that MS maintain scientific observer programmes and continue at-sea sampling schemes for the collection of scientific data for stock assessment and advice. Additionally that the role of scientific observer is not conflated with any monitoring role. Appropriate modifications to at-sea sampling protocols and recording should be devised for sampling the retained discard fraction.
Justification	Discarding will become illegal for the most part, and this has the potential to disrupt the historical time series of catches used in assessment models. Nevertheless, at-sea sampling needs to be maintained because discards at-sea will continue for various non TAC species and exemptions allowed under the landing obligation. Additionally the landing obligation will introduce a new category of retained discards and this fraction has to be sampled to obtain scientific data for the complete catch composition. Until such time as the feasibility of sampling this catch component on-shore can be determined there is a need to maintain at-sea sampling. The RCM NS&EA underlines the importance of maintaining statistically sound sampling designs for the on-board observations, and the integrity of scientific observers.
Follow-up actions needed	Scientific institutions to prepare sampling protocols appropriate for at-sea sampling of the retained fraction and the extra faction (landing part for industrial purpose of fish under the minimum reference size) due to the landings obligations and modify their sampling protocol . MS & ICES to consider if modifications are needed for recording, storage and estimation processes (data exchange format, IT systems, ...)
Responsible persons for follow-up actions	Scientific institutions within MS
Time frame (Deadline)	Prior to the implementation of the landing obligation.
LM comments	The LM fully support this recommendation and in addition that the ICES WGCATCH (November 2014) explore sampling strategies which can be applied under the landing obligation management regime including sampling of the landing fraction of the catch which previously was discarded. LM recommends to MS to follow the guidelines provided by WGCATCH.
Comments – RCM NA 2015	MS have maintained scientific observer programmes and continue at-sea sampling schemes after the landing obligation entered into force as far as it has been possible. RCM NA 2015 continue to stress the importance of observer programmes during the implementation of the landing obligation.

LM 3. Implications of the landing obligation - Scientific data storage, IT systems and estimation	
RCM NS&EA and RCM NA 2014 Recommendation 3	RCM NS&EA recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction. Also, authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate retained discards fraction. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications.
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation, January 2015 for pelagic stocks and January 2016 for demersal stocks.
LM comments	LM agrees in principle but recognises that no action can be taken until the implementation of the landing obligation is specified. The LM though suggests that MS consider how the new data sets can be accommodated in their scientific data bases.
Comments – RCM NA 2015	RCM NA consider a useful first step would be for the EU authorities to provide direction for accommodating these different fractions on data recording systems for both control agencies and science. Standard nomenclature and terminology will improve the link between control data and catch sampling data at a national level and would help with developing national and regional databases to accommodate these different fractions. Without the direction from the EU at the very least MS scientific institutes need to communicate with their control agencies to understand how control will be managing these new data to inform science on how they might manage theirs.

LM 4. Implications of the landing obligation - Monitoring catch data collection	
RCM NS&EA 2014 Recommendation 4	RCM NS&EA recommends that monitoring catch data collected by control agencies should be maintained and enhanced to account for the additional need to assess the impact of the landing obligation. Specifically the logbook system should be able to record continuing discards and the retained discard fraction as well as the landed fraction. Selective gear measures adopted by vessels should be recorded in logbooks.
Justification	The landing obligation will herald significant changes in the behaviours of fishers, fishing practices, and will most likely result in a proliferation of the use of more selective gears. There will also be requirements to record continuing discards, retained discards and the landed fraction of the catch. If these changes are not adequately recorded in the official catch monitoring data then the ability to make inference from scientific samples to fishing fleets will be limited. The better the accuracy and integrity of the monitored catch data the better are the estimates of the total catch.
Follow-up actions needed	Commission, European and national control agencies to consider the adequacy of catch monitoring procedures.
Responsible persons for follow-up actions	Commission, European and national control agencies
Time frame (Deadline)	Prior to the introduction of the landing obligation
LM comments	LM support this recommendation and suggests that the Commission address this to the MS and that the issue is taken into account when evaluating and approval process of the discard plans.
Comments – RCM NA 2015	RCM NA reiterates the need to monitor correctly all catches and landings. For this purpose special attention to the new catch and landing fractions is needed through a correct modification of the IT systems.

LM 5. Quality assurance – Agreed metiers and updated list	
RCM NS&EA 2014 Recommendation 6	**RCM NS&EA** recommends to update the list of metiers
Justification	After analysis of data uploaded to the RDB by MS in 2014, there were nearly 118 new metiers identified, which do not correspond with the reference list of metiers agreed during the RCM NS&EA in 2013. In the purpose of coordination of sampling activities in relation to key metiers at regional level, it is fundamental that the code list in the regional data base is unambiguous and corresponds with the reference list.
Follow-up actions needed	RCM NS&EA to update the list of metiers including detailed description of each. These lists should be implemented in the RDB. It should not be possible to upload data for metiers outside the list without permission from the RCM chair. The updated table of metiers should take all metiers standardized and accepted by RCMs over the last years into account.
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	intersessionally by correspondence
LM comments	LM endorses this recommendation.
Comments – RCM NA 2015	The system has been correctly implemented during the 2015 Data Call and an improvement in relation with 2013 Data Call has been made. That has been possible thanks to the work developed by RCM NA 2014 and ICES team in charge of RDB management. Metier lists by region needs to be examined and updated by the RCMs every year. This work has to take into account the specific problems described by MS in the upload logs. This part of the work will, after an agreement reached during RCM NA 2015, continue intersesionally. Pending for 2016 the metier descriptions templates for most part of countries.

LM 6. Quality assurance – Tools to analyse the data uploaded to the RDB	
RCM NS&EA 2014 Recommendation 7	RCM NS&EA recommends to develop tools to analyse the quality and the status of completeness of the data in the RDB
Justification	It is presently difficult to access the completeness of data uploaded to the RDB. Knowledge of the status of data is essential to RCM work. Reports and tools allowing the RCMs to examine completeness thereby need to be developed. In order to ensure information on the status of the data uploaded to the RDB is available for the data user, it is further suggested that facilities to mark the status of the various data type uploaded the RDB.
Follow-up actions needed	RCM NS&EA to list the needs for evaluating the quality and the status of completeness of the data in the RDB
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	As soon as possible
LM comments	The LM endorses this recommendation and stress the importance of the further development of such tools. The development of the requested tools is part of the roadmaps towards the implementation of the revised DCF and are included a study proposal. Therefore, the LM recommends that the study proposal will be funded as soon as possible.
Action – RCM NA 2015	RCM NA understands the difficulty to address this kind of analyses. By the time being, during RCM NA 2015 meeting the upload logs will be used to have a better understanding of the completeness of the data received.

LM 7. Quality assurance - Calibration of age readings	
RCM Baltic 2014 Recommendation	RCM recommends that WGBIOP develop a procedure for an annually intermediate calibration
Justification	To make sure on a regular basis that age reading is done in a consistent way and that a reference set is available for age readers before the start reading a new seasons of otoliths. WebGr could be used as a tool for uploading pictures on otoliths. All experts involved in the age reading for the specific stock should participate in the exercise which should be performed annually for all stocks
Follow-up actions needed	WGBIOP to look into a standard procedure
Responsible persons for follow-up actions	ICES WGBIOP
Time frame (Deadline)	Next WGBIOP meeting to be held in August - September 2015.
LM comments	LM endorses this recommendation
Action – RCM NA 2015	RCM NA agrees with WGBIOP dealing with this issue as part of their expertise work. RCM NA advises that prioritization of calibrations should be in accordance with benchmarks established.

LM 8. Quality assurance – More detailed logbook registration	
RCM Baltic 2014 Recommendation	RCM Baltic recommends that all fishermen fishing in the Baltic region document their catches on haul by haul basis in the logbook.
Justification	The introduction of the new CFP (article 15) will probably change the approaches to monitoring the fishery with the current scientific observer sampling programmes and the control of the fisheries. To ensure quality in catch data a more detailed registration of catches is necessary and this can be implemented by document the catches on a haul-by-haul basis in the official logbooks.
Follow-up actions needed	
Responsible persons for follow-up actions	Commission / BALTFISH
Time frame (Deadline)	Before the 1st of January 2015
LM comments	LM endorses this recommendation
Action – RCM NA 2015	No comments from RCM NA.

LM 9. Concurrent sampling	
RCM NA 2014 Recommendation 1.	The RCM NA recommends that a comprehensive evaluation of the utility of the data being collected with the concurrent sampling should be performed.
Justification	It is unclear whether the significant resource needed to carry out concurrent sampling provides benefits that outweigh the costs. Some ICES Working groups have benefited from concurrent sampling data collected however there is no empirical evidence to support this. In order to decide if concurrent sampling should continue, more feedback from end-users is required.
Follow-up actions needed	1. MS should carry out the evaluation on their own data collection schemes and report back to the RCM NA. 2. ICES to setup a workshop proposal to see the implication to the stopping the concurrent sampling for those stocks and benefits concurrent sampling are providing or can provide considering the new and broader scopes of the revised DCF, such as the evaluation of impacts of fisheries on marine biological resources and on the ecosystem.
Responsible persons for follow-up actions	1. MS, RCM NA 2. ICES
Time frame (Deadline)	1. MS: Intersession work with results reported to RCM NA 2015 2. ICES: Workshop to take place in 2015.
LM comments	The LM endorses this recommendation.
Action – RCM NA 2015	Unfortunately WKISCON2 report was not completely available before the meeting took place, avoiding a full analysis by the group. A RCM NA subgroup reviewed the conclusions of the WKISCON2 and the analysis presented by MS (only IEO from Spain presented an analysis, ANNEX 4). RCM NA supports the overall conclusion from WKISCON2 stating that the implementation of concurrent sampling has provided benefits in terms of provision of data, resulting in substantial increases in the number of species for lengths, without jeopardizing other uses of the data. Sampling the full range of species should be the future aim when moving towards a probability based system in the commercial sampling. Further, a strict stock based sampling is not an option to take into account again. Concurrent sampling is then an option within the so called “statistically sound sampling” approaches that might be chosen in the future.

LM 10. Quality assurance – RDB data corrections	
RCM NA 2014 Recommendation 2	The RCM NA recommends that 1. the reference lists for metiers, harbours and species in the RDB are restricted to the agreed lists (metiers: RCM metier lists, harbours: EU Master Data Register, species: AphiaID (WoRMS)); 2. any data that cannot be uploaded should be recorded on a standard upload log distributed with the data call; 3. MS reload all their data in reference to the restricted lists.
Justification	There are inconsistencies and errors in the data on the RDB that have been caused by non-restrictive reference lists for metiers, harbours and species, and insufficient data checks by MS. The annual data checking procedures that are currently carried out at RCMs reveal these errors and data gaps, limiting the potential for data analysis. A log of data completeness is needed so that users can assess the limitations of the data and therefore what interpretations or analysis can be done with it. Currently it is unclear how the data can be used. The RDB will be developed to record the status of the data within it, but until this feature is available a standard log submitted at the time of each data call can provide RCGs and data users with a reference to what data is not on the system as well as what is.
Follow-up actions needed	1. RCMs to provide ICES, as the RDB administrators, with the restricted reference lists. ICES needs to incorporate these lists in the RDB; 2. RCM chairs to include upload log in data call 2015; 3. MS need to reload their data (ICES needs to delete all the data first) and complete the log and submit it to RCM chairs. These logs should be made available for analysis at the next RCMs.
Responsible persons for follow-up actions	1. RCMs, ICES (Data Centre) 2. RCM chairs 3. MS, ICES (Data Centre)
Time frame (Deadline)	1. Reference lists: before RCM data call 2015 2. Upload log: to include in data call 2015 3. Reloading of data and submitting of upload log to RCM chairs: by deadline specified in data call 2015
LM comments	The LM endorses this recommendation. Based on the progress done in the RDB –considering no fundings are expected immediately- RCM chairs will considerate in the moment of launching the Data Call if a complete reload –all year series- or current year is needed.
Action – RCM NA 2015	RCM NA confirmed all the actions were taken during 2015.

LM 11. Enlarge PGMed scope to Large Pelagics	
RCM MED&BS-LP 2014 Recommendation LP sub-group	Considering the new configuration taken in place in 2014 with LP subgroup associated to RCM MED&BS within a RCM MED&BS-LP, the LP subgroup recommend to enlarge PGMedToRs to take into account LP subgroup. The list of ToRs are annexed in this report (annex 3)
Action – RCM NA 2015	Not related to RCM NA

LM 12. Coordinated PGMed and LP data call	
RCM Med & BS-LP 2014 Recommendation LP sub-group	The data required each year by the PGMed should be collected within the framework of a data-call defined by the following elements: **Content:** The content is defined according to the ToRs, which can now include issues specifically dedicated to the Large Pelagics subgroup or relevant to both groups. **Format:** For generic ToRs the format of the data will be similar to the format contained within the templates, spreadsheets and text files, used until now. For the CV computations and investigation of sampling consistency, the data will be collected to be consistent to the Standard Data Exchange Format (SDEF) proposed by the Large Pelagics subgroup, allowing to use the same tools and methodology for a more thorough investigation of sampling stratification and precision. **Dates:** The start and end dates of the data-call are set-up so that member states have time and flexibility for answering it, while complying with the 6 months period after the end of data collection during which data cannot be required. **It has been agreed to launch the data-call the 1st of March and to set the deadline to the 15th of July**. **Person in charge:** The chairs of the RCM MED&BS-LP will be responsible for launching the data-call.
Action – RCM NA 2015	Not related to RCM NA

3.2 Feedback and recommendation from data end users

3.2.1 ICES

To assist the RCM to answer ToRs a number of files were compiled and uploaded to the RCM SharePoint, i.e. assessment type per stock, survey list for NA stocks, use of discard data in 2015, list of MoU stocks.

3.2.1.1 Feedback on 2014-2015 data call

ICES Secretariat has requested National Correspondents to report their views and suggestions on the 2014-2015 data call. This request was not issued in time for the RCM NA, and a letter will be sent in the coming weeks after the RCM meeting.

3.2.1.2 ICES feedback on data transmission and quality

ICES assessment working groups provided feedback on the 2014 Data Call for the data submitters and National Correspondents. In this table, data issues are described for each stock and weighted according to severity (i.e., low, medium, or high).

3.2.1.3 ICES recommendations to RCM NA

3 recommendations were extracted from the ICES database from WGs for the RCM. Feedback to ICES was asked to be provided for these recommendations.

R1. From WGBYC Working Group on Bycatch of Protected Species
Sampling under the current DCF can contribute to the assessment of bycatch of PETS, but is largely insufficient on its own as currently implemented by Member States. An assessment carried out by WKBYC (2013b) showed that bottom trawling is generally relatively oversampled with respect to monitoring of protected species bycatch, while in some specific fishing areas set nets, longlines, and purse seines are under sampled. For seabirds priority should be given to monitoring in trammel nets and set gillnets in the Baltic, North Sea, and North Atlantic, and in set longline fisheries in the Atlantic and Mediterranean/Black Sea.
RCM NA comments
The RCM NA 2015 recognises the importance of this recommendation. Under the ongoing EU MAP, monitoring of incidental by-catch of rare, vulnerable, sensitive and endangered species should be integrated in the fisheries monitoring programmes. In this new scenario, RCGs to agree on the most appropriate sampling approach for the region. Nowadays, an ongoing project, Mare/2014/19 project (FISHPI) under WP3 is dealing with this issue.

R2. From WGHANSA - Working Group on Anchovy, Sardine and Horse Mackerel
The WGHANSA recommends that anchovy catches in the western part of Division IXa are sampled whenever an outburst of the population in the area is detected. The WGHANSA considers each of the survey series directly assessing anchovy in Division IXa as an essential tool for the direct assessment of the population in their respective survey areas (Subdivisions) and recommends their continuity in time, mainly in those series that are suffering of interruptions through its recent history . The WGHANSA recommends the extension of the BIOMAN survey to the north to cover the potential area of sardine spawners in VIIIa. This extension should be funded by DCMAP. The WGHANSA recommends a pelagic survey to be carried out on an annual basis in Autumn in the western Portuguese coast to provide information on the recruitment of small pelagic (particularly sardine and anchovy) in that region. The WGHANSA recommends a pelagic survey to be carried out on an annual basis in spring in the English Channel (VIId, VIIe) to provide information on the status of small pelagics (particularly sardine and anchovy) in that region.
RCM NA comments
RCM NA confirmed the two countries sampling in Division IXa are carrying out a concurrent strategy for all the metiers operating in the area. Any outburst of the population should be reflected in the sampling information collected. This situation seems to be, in both countries, an improvement compared to the sampling network before to 2009 where sampling targets by species where put just during the months where anchovy catches were more frequent. Following the data in 2014 in Division IXa Spain accomplished 39 trips where anchovy was sampled as part of its onshore sampling programme while Portugal did 4 onshore and 4 at sea. In relation to the surveys the opinion of the RCM NA is that a fully and independent evaluation of the surveys must be carried out similar to the SGRN 10-03 (see Recommendation 6).

R3. From WGMEGS – Working Group on Mackerel and Horse Mackerel Egg Surveys

WGMEGS is extremely concerned about the limited resources that are available to complete the 2016 egg survey. Norway's decision to withdraw from both the North Sea survey and also the western survey has resulted in additional concerns regarding the ability to adequately cover the entire spawning area during all of the survey periods. In addition, the information collated from the winter surveys undertaken in 2014-15 (section 12) point towards a continuation of early peak spawning as evidenced in the 2010 and 2013 surveys. Coupled with the expansion of the spawning area for mackerel it will be impossible to cover the whole area during all periods. The industry has provided an offer of ship time to provide cover in the areas/periods with gaps, but this should not be seen as a long term replacement to cover the loss of established surveys. WGMEGS encourages the coastal states to discuss whether fishing rights might be coupled with an obligation to participate in the triennial egg surveys and in the work analysing egg and fecundity data after the

RCM NA comments

RCM NA shares the concern of WGMEGS regarding the limited resources available for the Mackerel and Horse Mackerel Egg Surveys. In general, RCM NA suggests that for at sea surveys within the DCF remit participation is provided for those member states exploiting greater than a given percentage of the exploitation of a stock. Participation could be in a number of ways: operation of the research vessel; contribution of staff and financial support but also in participating in the analyzing of samples after a survey. RCM NA proposed that EU TAC share rather than the level of stock exploitation might provide a better or at least simpler basis for determining the degree of involvement. For financial support a similar approach like the cost sharing model requiring contributions from Member States with greater than 5% share of the relevant EU TAC which had been agreed at RCMs in 2014 for to the two international surveys (International Blue Whiting Spawning Survey and International Ecosystem Survey in the Nordic Seas) could be a way forward for the Mackerel and Horse Mackerel Egg Surveys in the North Atlantic and in the North Sea.

3.2.1.4 ICES assessment WGs and benchmark meetings

ICES shared in the SharePoint the current ICES Benchmark Process and provided a proposed list of NA stocks that will be benchmarked in 2016 and 2017:

Year	Stock
2016	Plaice in Division VIIa (Irish Sea)
	Cod in Division VIIa (Irish Sea)
	Herring in Divisions VIIa (South of 52°30'N) and VIIg, h, j, k (Celtic Sea and South of Ireland)
	haddock in Division VIIa (Irish Sea)
	Whiting in Division VIIa (Irish Sea)
	White anglerfish (*Lophius piscatorius*) in Divisions VIIIc and IXa (Cantabrian Sea, Atlantic Iberian Waters)
	Black-bellied anglerfish (*Lophius budegassa*) in Divisions VIIIc and IXa (Cantabrian Sea, Atlantic Iberian Waters)
	Black-bellied anglerfish (*Lophius budegassa*) in Divisions VIIb–k and VIIIa,b,d (West and Southwest of Ireland, Bay of Biscay)
	White anglerfish (*Lophius piscatorius*) in Divisions VIIb–k and VIIIa,b,d (Southern Celtic Seas, Bay of Biscay)
	Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Subareas IV, VI and Division IIIa (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)
	Nephrops in Divisions VIIIa,b (Bay of Biscay, FUs 23–24)
	Nephrops in Southwest and South Portugal (FUs 28–29)
	Nephrops in the Gulf of Cadiz (FU 30)
	Herring (*Clupea harengus*) in Subareas I, II, V and Divisions IVa and XIVa (Northeast Atlantic) (Norwegian spring-spawning herring)
	Haddock in Rockall (Division VIb)
2017	Anchovy in Division IXa
	Sardine in Divisions VIIIc and IXa
	Sardine in Divisions VIIIa,b,d and Subarea VII
	Horse mackerel (*Trachurus trachurus*) in Division IXa (Southern stock)
	European sea bass in Divisions VIIIa,b (Bay of Biscay)
	European sea bass (*Dicentrarchus labrax*) in Divisions IVbc, VIIa, and VIId–h (Irish Sea, Celtic Sea, English Channel, and southern North Sea)

3.2.1.5 RCM NA comments to ICES

RCM NA acknowledged ICES for the information provided. A recommendation is made regarding the planning of ICES working groups.

ICES planning of working groups	
RCM NA 2015 Recommendation 1	RCM NA recommends ICES to review the ability of MS to provide data for working groups occurring in the first two months of the year in terms of the impact on quality and completeness of the data supplied. RCM NA share the opinion that this possible impacts would be avoided by moving the groups to April or later. It is strongly recommended to allow MS to have enough time to prepare and review the data.
Justification	Laboratories have problems to provide complete quality assured data to working groups occurring during the first two months and the effect of this on the quality of the assessments needs to be evaluated. That has been specifically the case of WGDEEP in 2014 (25th February).
Follow-up actions needed	ICES to ensure yearly this recommendations is considered before establishing the annual calendar
Responsible persons for follow-up actions	ICES
Time frame (Deadline)	2016

3.2.2 Other end-users

There is no feedback or recommendations from other end-users. No other end-users are relevant at this moment.

RCM NA was required by RCM NS&EA to consider a recommendation that RCM made during its 2015 meeting (one week before RCM NA meeting) concerning the age reading in stocks were age is not used in assessments currently.

RCM NS&EA recommended that the Liaison Meeting (LM) discusses and suggest a decision making process on how to deal with requirements on age determination for stocks were age is not used in the assessment due to poor agreement between age readers.

In opinion of RCM NA, WGBIOP in contact with stocks coordinators should make a full evaluation of the state-of-the-art between age reading of species and assessment avoiding the spent of resources unnecessarily.

Age determination in stocks were age is not used in assessments	
RCM NA 2015 Recommendation 2	RCM NA recommends a full evaluation of the state-of-the-art regarding relations between age reading of species and assessment. This evaluation could be done by WGBIOP in contact with stock coordinators. RCM NA received a specific request to consider the case of Lophius spp. RCM NA did not find arguments to avoid MS consider stopping or reducing the age reading of ilicium and otoliths of Lophius spp. Stopping the collection of ilicium and otoliths of Lophius spp. is not recommended. This recommendation should be valid until an agreed standardized age reading method is developed.
Justification	Many Member States undertake the task of determining the age of fish stocks e.g anglerfish (*Lophius* sp) for which the age determinations is not used in the assessment due to poor agreement between readers. In the present situation all MS make, in lack of guidance, their own judgement if age determination should be kept or not. There need to be some kind of guidance to MS on how to act in those situations and the responsible body to give this guidance need to be identified. The collection of material (e.g otoliths) should of course continue as long as it is a requirement in DCF. RCM NA received a petition to consider the case of *Lophius* spp. Strong discrepancies between ilicia and otolith reading are found. This made not possible to use the age estimates of both calcified structures together, ilicia and otoliths, for stock assessment purposes. There is a need for an agreement between WGBIOP and *Lophius* stock coordinators to agree in the usefulness of following collecting and reading these structures for assessment purposes.
Follow-up actions needed	LM members to discuss and reach an agreement. Agreement between WGBIOP and *Lophius* stock coordinators.
Responsible persons for follow-up actions	Liaison Meeting 2015 WGBIOP and *Lophius* stock coordinators
Time frame (Deadline)	2016 Next WGBIOP meeting (2016).

4. Overview of the sampling activities

4.1 Naming conventions of metiers for regional coordination

Harmonization of metiers at level 6 is being accomplished since the 2008 RCM NA. Over last years, a lot of work at the RCMs has gone into reviewing and collating fleet descriptions, metier definitions, standardising metier coding and merging national metiers into regional metiers.

RCMs in the past have agreed on the naming convections, drawn up limited lists and provided strong recommendations that these lists are adhered to, but still the problems persist. RCM NA highlight the importance of using fishing grounds, mesh size ranges and metier naming convention agreed by the RCMs. RCM NA 2012 already showed the need of updating Appendix IV (1-5) of Commission Decision 2010/93/EC and, in any case, the importance of allowing RCMs the responsibility to agree appropriate species metier aggregations – in accordance with regulation- for use within their region under future EU Data Collection programmes.

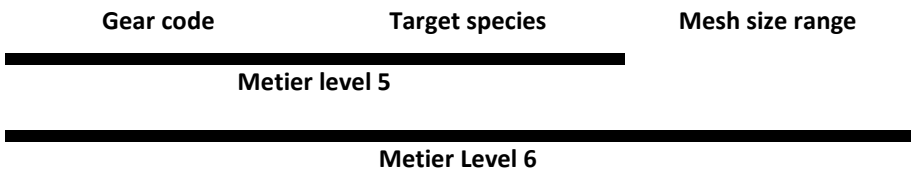
The role of the RDB in this context is fundamental providing the means for ensuring MS data is more consistent in the values they use in these data fields. Work developed during 2015 has been crucial to restrict the uploads in accordance with the RCM NA agreements. But further development of the RDB is required to ensure this.

Naming convections and reference list can be updated if there's a need to include any new metier, but MS work is needed. The current process dictates that any new required metier and fleet naming and description must follow the standard naming convention and provide a metier description template (example provided in Report RCM NA 2014, Annex 10, Spanish metiers). Thus, if a required metier is not part of the reference list, its inclusion must be reflected in the metier naming standards. The fleet description should then be presented to the RCM for approval. Once approved by the group the reference list of metiers is revised.

In 2014 RCM NA decided to go back and produced a reference list containing all the possible combinations for metier naming. These combinations were accordingly to the conventions gathered and updated in 2011 RCM NA and 2012 RCM NA reports. The final table, included in the RCM NA 2014 report (RCM NA 2014, Annex 2) contained some editing mistakes that have been corrected. Correct tables summarizing the RCM NA agreements on metier naming standards are presented below.

This tables and the reference list produced act as a full reference for metier coding summarizing all the agreed convections. It includes all the possible combinations composed following to the metier naming standards.

Metier naming standards for RCM NA:



Gear code: as detailed in 2	Each item separated by '_'
Target species: as detailed in 3	
Mesh size range: as detailed in 4	

The metier naming follows 3 steps:

1. North Atlantic Region Fishing grounds

ICES area	VIIIabde	VIIfgh	VIIa	VIIe	VI	VIIbcjk	VIIIc, IXa	X
Fishing Ground	Bay of Biscay	Celtic Sea	Irish Sea	Western Channel	Western Scotland	West of Ireland	Iberian	Azores

2. Gear code, target assemblages and mesh size authorized*

Gear Code	Target assemblage authorised (1)	Mesh size authorised
DRB	MOL	0_0_0
HMD	MOL	0_0_0
OTB	MOL, CRU, DEF, MCD, MCF, SPF, DWS, MPD, MDD	3rd step – Towed gear
OTT	MOL, CRU, DEF, DWS, MCD, MPD	3rd step – Towed gear
PTB	CRU, DEF, SPF, MPD	3rd step – Towed gear
TBB	CRU, DEF, MCD, MCF, MOL	3rd step – Towed gear
OTM	SPF, DEF	3rd step – Towed gear
PTM	SPF, LPF, DEF	3rd step – Towed gear
LHM	FIF, CEP, SPF, DEF, DWS	0_0_0
LHP	FIF, CEP	0_0_0
LTL	LPF	0_0_0
LLD	LPF, DEF, DWS	0_0_0
LLS	DWS, DEF	0_0_0
FPO	MOL, CRU, FIF	0_0_0
FYK	CAT, DEF	0_0_0
FPN	LPF	0_0_0
GTR	DEF	3rd step – Passive gear
GNS	SPF, DEF, CRU, DWS	3rd step – Passive gear

GND	SPF, DEF	3rd step – Passive gear
PS	SPF, LPF	0_0_0
SSC	DEF	3rd step – Passive gear
SDN	DEF, MCF	3rd step – Passive gear
SB	FIF	0_0_0
OTH	EEL	0_0_0
MIS	MIS	0_0_0

(1) target species code: Catadromous species (CAT), Crustaceans (CRU), Demersal species (DEF), Deep-Water Species (DWS), Cephalopods (CEP), Finfish (FIF), Large Pelagic Fish (LPF), Small Pelagic Fish (SPF), Mixed Crustaceans and Demersal (MCD), Mixed Cephalopod and Demersal (MCF), Mixed Pelagic and Demersal (MPD), Mixed Deep-water species and Demersal (MDD), Miscellaneous (MIS), Molluscs (MOL).

*New introduction 2015: Metier OTH_EEL targeting glass eel was missing in the former reference lists established by RCM NA, but this metier is well listed in Appendix IV of EU Decision 2010/93 and is relevant for the NA region.

3. Mesh size ranges used by the RCM-NA for harmonization purpose.

The agreed mesh-size ranges are in accordance with the current EC Technical Regulation 850/98 and its subsequent amendments.

		Mesh size ranges (in mm)					
Towed Gear	Sub-areas V, VI & VII	<16	16-31	32-69	70-99	100-119	>=120
	Sub-area VIIIabde & Div. IXb	16-31		32-54	55-69	>=70	
	Area VIIIc & IXa	<55		>=55			
	Area X	20-39		40-64	>=65		
Passive Gear	Sub-areas V, VI & VII	10-30	50-70	90-99	100-119	120-219	>=220
	Sub-area VIII & Div. IX	<40	40-49	50-59	60-79	80-99	>=100
	Area X	-					

4.2 Description of fisheries

RCM NA agrees on the need to maintain a description of the métiers that are sampled in the RDB. These descriptions improve the understanding of the fisheries at a regional level. In any case analysis on the RDB data should be used to ensure consistency through the region in the métiers before merging data.

Descriptions of metiers	
RCM NA 2015 Recommendation 3	RCM NA recommends MS to provide a description of the métiers that are sampled in the RDB. RCM NA opinion is that this could be answered during next data call. At the same time it would be recommended to set up space in the RDB to keep these descriptions (link it in a repository with version control).
Justification	A short description of the metiers provides a useful method to understand the fishing units RCM NA works with. As long as the RDB is using these units, it should contain its description.
Follow-up actions needed	1. RCM NA MS to provide this template before RCM NA 2016. 2. RCMs chairs to include this request in next Data Call as an optional request recommended. 3. RDB Managers to set up a space in the RDB to maintain these descriptions
Responsible persons for follow-up actions	MS of the RCM NA, RCM chairs, RDB Manager
Time frame (Deadline)	2016 Data call

5. Sampling design and sampling strategy

5.1 Sampling design for the selection of PSUs

Through the years quite some effort has been done to promote and give support in the design and implementation of statistically sound designs for sampling commercial catches. Meetings such as WKPICS, SGPIDS and WGCATCH have provided guidelines for good practice, and explored ways of documenting the quality of sampling designs and of the data that are collected in a way that is useful for different types of end-users. To be able to evaluate the level of implementation of probability based sampling, Tables 1 and 2 in Annex 4 indicate the survey design that each Member State has adopted for sampling at port (landings) and at sea (discards), and highlights the different approaches such as the choice of Sampling Frame, and the methods for selection and stratification of sampling units (SU). Tables also include information about the strategy used in the selection of the species to sample (whether concurrent sampling or other strategies have been used)

The information on 'on shore' sampling was derived from last year's WGCATCH report, where prior to the meeting a questionnaire was circulated to all participants asking for details of the national shore sampling design.The information about at-sea sampling design was taken from the discards quality tables completed by MS as part of the 2015 ICES data call, MS were asked to complete this information at the RCM meeting. Information about the use or not of concurrent sampling was derived from the WKSCON2 draft report

For the "On shore case", it can be seen that the sampling frame varies from port and group of ports to fishing gear or demersal/pelagic species. A more important variable is the selection of 1st sampling unit where 7 MS follow a quasi-random selection and 7 MS use a fully random system in line with statistically sound sampling schemes (4S). 9 MS conduct concurrent sampling on shore whereas 6 do not. There are 3 unknowns.

In the "At sea" cases, MS adopt a less variable system when designing their at sea sampling schemes. The majority of MS have their Sampling Frame as Vessel List and the 1st SU is vessel. 8 MS use non-random or semi random schemes and 9 use a fully random scheme in line with the 4S approach to sampling. There are 2 unknowns. Most countries conduct concurrent sampling at sea.

Conclusion: The table highlights the varying sampling designs utilised by MS. It is the aim of RCMs to encourage all MS to move towards a more harmonised sampling design and adopt a fully statistically sound approach. The categorising into fully random, quasi random etc. is subjective so there is a need to be able to demonstrate that any judgement by MS that they use a fully random or quasi random scheme needs to be supported by objective evidence. Practical constraints in the implementation of sampling schemes need also to be taken into account

5.2 Sampling design by fishing ground

The initial analysis presented here (5.2.1) mimics that undertaken in 2013 with the aim of demonstrating the improvement in the availability of the data since 2013 and highlighting the extent of the continuity, or lack of, in the fishing patterns in the different fishing grounds.

The second part of the analysis looks in more detail at the situation in the Iberian fishing ground (Annex 6); this explores the relative distribution of the landings by harbor and fleet segment and the sampling coverage of species and stocks.

Consideration needs to be given to the fact that the analysis is based on landed Weight. This is because the landed weight is available consistently in the CL data, whereas landing values are missing for a number of countries; there are 1027698 landed weight values ("landWt" field in cl data) in the data set, with no NAs, in contrast landed value ("landValue" field in cl data) has 301386 (29%) NA values. Thus it is still the case that there is a level of incompleteness in the RDB data that limits the extent of the analysis that can be performed. The use of landed weight gives the analysis a skew toward the commercial species with large volumes of landings. However, commercially important species are not the only criteria in any potential sampling design; landed weight could be considered a major issue for commercial species while diversity and wider ecosystem impacts considered for MSFD objectives are the other.

5.2.1 Landings by fishing ground in the North Atlantic region in 2014

The total landed weights all species in the North Atlantic region by landing countries are shown in figure 5.2.1. and by vessel flag country is shown in figure 5.2.2. It can be seen that France is the main landing country and that French flag vessels contribute the greatest volume of landings. Spain is second in the ranking and Ireland is third. Scottish Flag vessels are the fourth most prolific fleet though the landings into the Netherlands are proportionally more than the contribution of the Netherlands flagged vessels. Portugal is ranked 5th in terms of landed weights and 6th in terms of the contribution of flag vessels. Denmark also has a significant flag fleet active in the area and receives substantial landings. The predominance of pelagic fisheries in the catches is apparent from figure 5.2.3; mackerel and blue whiting being the top two species by landed weight.

The distribution of landed weight by fishing ground, and the countries where the landings occur is shown in table 5.2.1. Form the sampling design aspect the issue of interest is the extent to which the sampling commitment is distributed across member states within the North Atlantic region. At the extremes of this are the situation in the Azores, and Iberian areas where fishing is effectively covered by Portugal and Spain, at the other extreme is the situation in the West of Ireland and West of Scotland fishing grounds where there are 13 and 14 nations involved of which 6 to 7 have to be considered as significant fishing countries in the area.

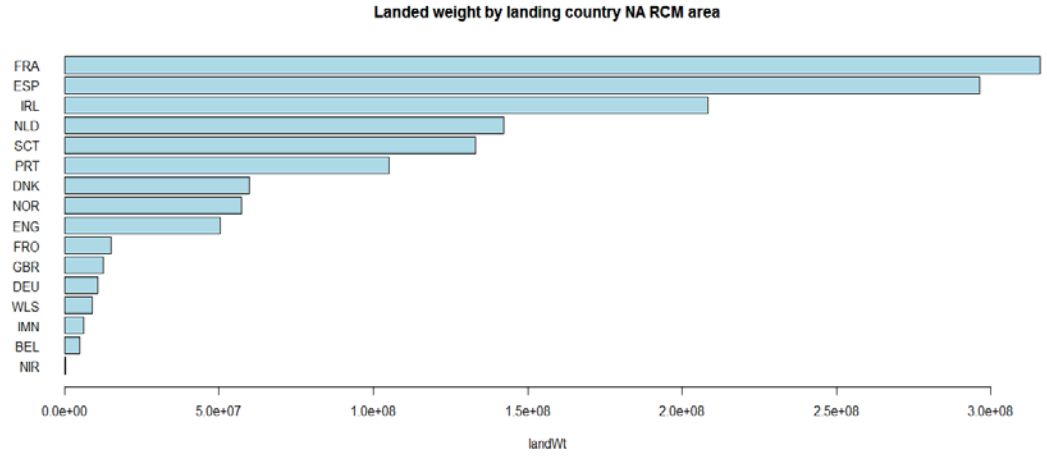


Fig 5.2.1. Landed weight by landing country

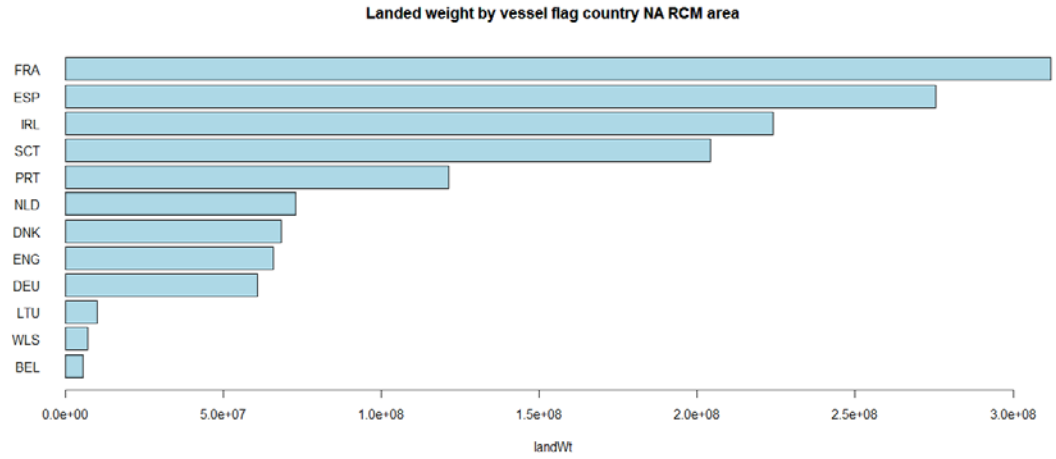


Fig 5.2.2. Landed weight by vessel flag country

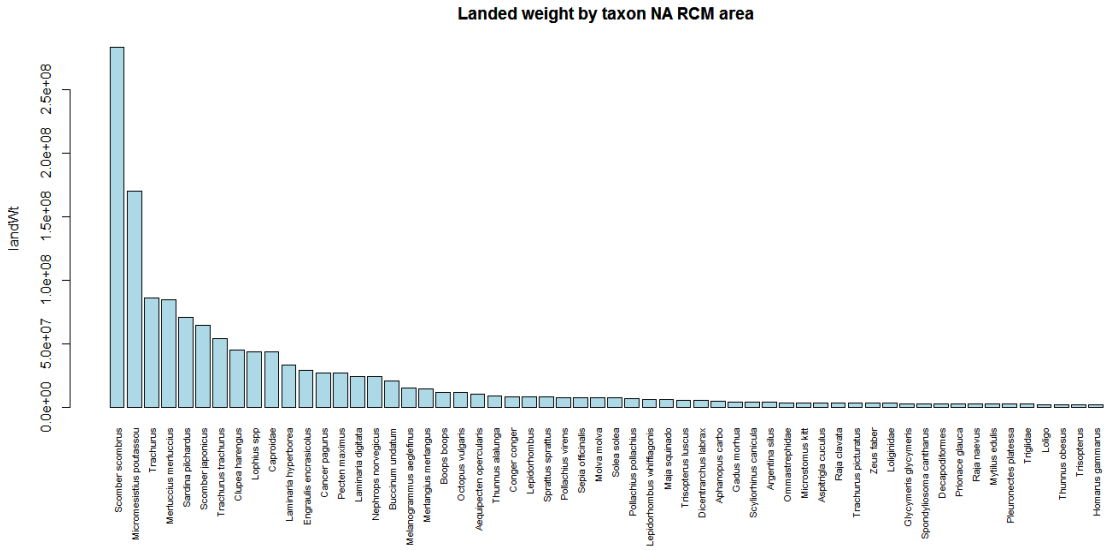


Fig 5.2.3. Landed weight by taxon 2014 data

Table 5.2.1. Landed weight by fishing ground and country (based on data available at the 2014 NA RCM). All landed weights are in Kg

	Azores	Bay of Biscay	Celtic Sea	Iberian	Irish Sea	West Channel	West Ireland	West Scotland
BEL	NA	757556	3573735	NA	473261	230551	NA	NA
DEU	NA	2586489	NA	NA	NA	NA	4636396	3586719
DNK	NA	119219	10191106	NA	NA	771154	17940536	30774751
ENG	NA	247	10917841	NA	3339666	35575577	319873	183643
ESP	2047528	42262598	2067804	216028190	NA	NA	26927005	7104793
FRA	8749	106368062	33701001	450878	10535	112720136	38752300	24871711
FRO	NA	NA	8370632	NA	NA	NA	5568123	1040000
GBR	NA	NA	2174812	NA	125614	216015	1469641	8467525
IMN	NA	NA	NA	NA	6150729	NA	NA	931
IRL	NA	11194	38627749	NA	12402179	29086	92071775	65902517
NIR	NA	NA	8381	NA	278974	NA	NA	137409
NLD	NA	1406735	4113169	NA	NA	4796498	51905939	80072861
NOR	NA	NA	NA	NA	NA	NA	10802712	46543529
PRT	9928579	NA	NA	96014066	NA	NA	NA	NA
SCT	NA	NA	73	NA	4313425	1015	17125914	111599450
WLS	NA	8206	3570778	NA	5119704	11205	339789	479

5.2.2 Landings by fishing ground

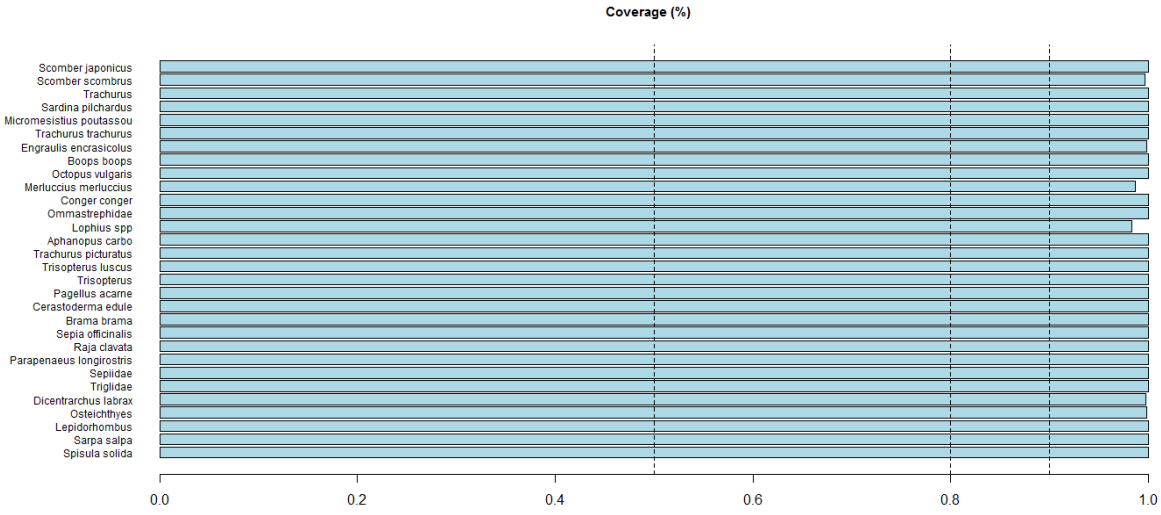
When considered by fishing ground the activities some countries are clearly significant volumes of landings, while others have a peripheral part and receive only small volumes. Here we identify the countries which have significant fisheries in an area defined as those that collectively receive 95% of the total weight of the landings from the area. The taxon landed weights for these countries are shown. This is followed by a plot of the % coverage that would be achieved for the significant species if only the countries receiving 95% of the total landings were responsible for sampling landings.

5.2.2.1 Iberia

In the Iberian fishing ground the main species by landed weight are the chub mackerel, mackerel, sardine, blue whiting and horse mackerel. Spain and Portugal are the countries with significant landings from the area. Sampling by Spain and Portugal would provide coverage in excess of 90% for all the significant species.

Table 5.2.2.1. Landed weight (kilograms) Iberian fishing ground.

	ESP	PRT
Scomber japonicus	35883614	26885925
Scomber scombrus	43056803	655506
Trachurus	30578466	NA
Sardina pilchardus	12013586	15556961
Micromesistius poutassou	26266588	1251684
Trachurus trachurus	4679176	15138827
Engraulis encrasicolus	12975570	807221
Boops boops	11416875	347828
Octopus vulgaris	3690561	8008989
Merluccius merluccius	7320734	2363156
Conger conger	2010280	909984
Ommastrephidae	2859508	5701
Lophius spp	2008208	447714
Aphanopus carbo	1515	2083469
Trachurus picturatus	10513	2033191
Trisopterus luscus	51032	1718596
Trisopterus	1583354	NA
Pagellus acarne	838459	624673
Cerastoderma edule	NA	1456496
Brama brama	1222908	2776
Sepia officinalis	13293	1200445
Raja clavata	534656	648802
Parapenaeus longirostris	883347	287607
Sepiidae	1049317	NA
Triglidae	1025997	NA
Dicentrarchus labrax	376491	612213
Osteichthyes	125220	853254
Lepidorhombus	969917	NA
Sarpa salpa	726854	218091
Spisula solida	NA	904256

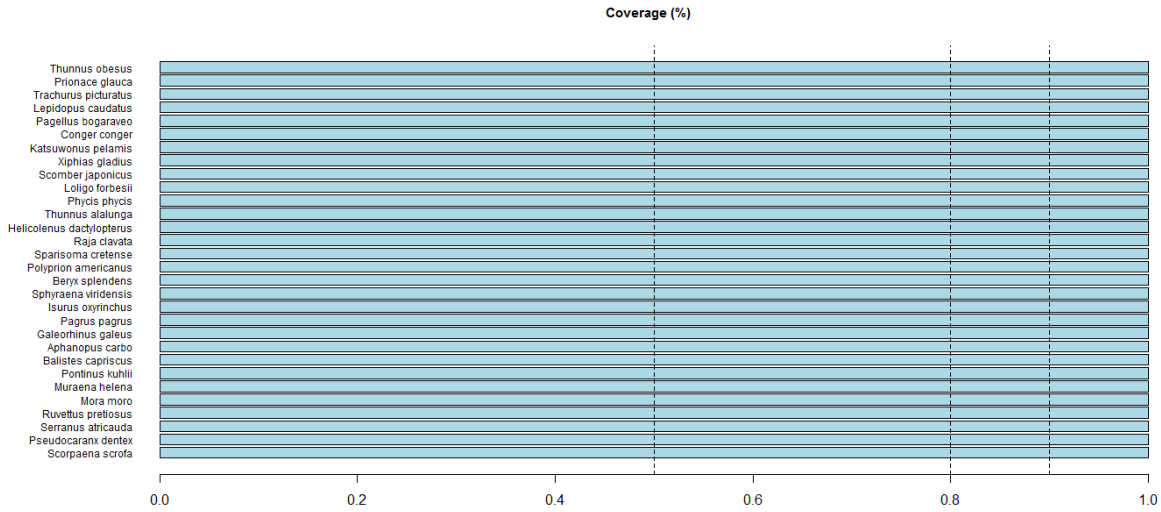


5.2.2.2 Azores

The main landings by weight are of big eye tuna, blue shark, blue jack mackerel, silver scabbard fish, blackspot seabream, European conger. Coverage for the Azores is not surprisingly complete, no countries other than Portugal and Spain being significantly involved in the fishery.

Table 5.2.2.2. Landed weight (kilograms) Azores fishing ground.

	PRT	ESP
Thunnus obesus	2109390	47428
Prionace glauca	241347	1471705
Trachurus picturatus	1012753	NA
Lepidopus caudatus	806619	NA
Pagellus bogaraveo	738008	NA
Conger conger	719804	NA
Katsuwonus pelamis	718922	NA
Xiphias gladius	157503	361097
Scomber japonicus	401627	NA
Loligo forbesii	395589	NA
Phycis phycis	371066	NA
Thunnus alalunga	350364	18729
Helicolenus dactylopterus	212502	NA
Raja clavata	196373	NA
Sparisoma cretense	146196	NA
Polyprion americanus	135774	NA
Beryx splendens	124525	NA
Sphyraena viridensis	111297	NA
Isurus oxyrinchus	11757	79754
Pagrus pagrus	81853	NA
Galeorhinus galeus	72705	NA
Aphanopus carbo	64768	NA
Balistes capriscus	63607	997
Pontinus kuhlii	63241	NA
Muraena helena	59586	NA
Mora moro	59167	NA
Ruvettus pretiosus	4214	44846
Serranus atricauda	46387	NA
Pseudocaranx dentex	43168	NA
Scorpaena scrofa	34878	NA

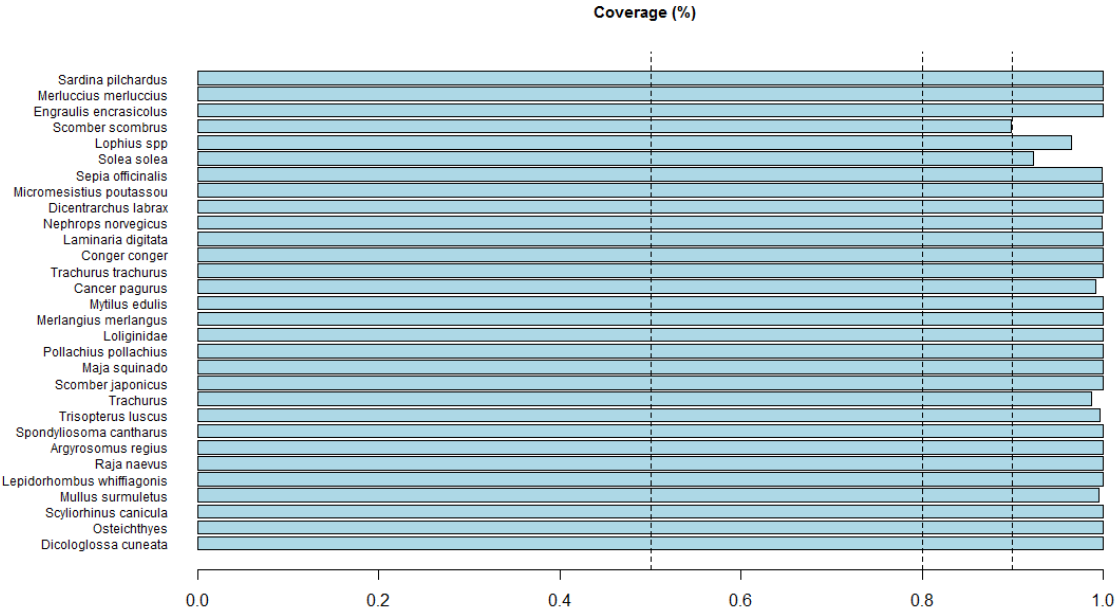


5.2.2.3 Bay of Biscay

Fisheries in the Bay of Biscay are dominated by France and Spain, sardine and hake being the main landed species. Germany also falls into the 95% threshold due to catches of mackerel in the area. Coverage for all the main species is in excess of 85% of the total landings from the landings of France Spain and Germany.

Table 5.2.2.3. Landed weight (kilograms) Bay of Biscay fishing ground.

	FRA	ESP	DEU
Sardina pilchardus	18017894	16237076	NA
Merluccius merluccius	16099711	7644695	NA
Engraulis encrasicolus	4448614	10063803	NA
Scomber scombrus	7909532	1651917	2580967
Lophius spp	6824060	1335320	NA
Solea solea	3892443	10505	NA
Sepia officinalis	3589654	NA	NA
Micromesistius poutassou	3036649	20071	NA
Dicentrarchus labrax	2911890	91324	NA
Nephrops norvegicus	2805443	457	NA
Laminaria digitata	2702950	NA	NA
Conger conger	2406329	144847	NA
Trachurus trachurus	2275510	NA	NA
Cancer pagurus	2219477	26102	NA
Mytilus edulis	1644393	NA	NA
Merlangius merlangus	1574972	54023	NA
Loliginidae	1625155	NA	NA
Pollachius pollachius	1605953	13406	NA
Maja squinado	1502872	NA	NA
Scomber japonicus	344837	816440	NA
Trachurus	NA	983382	5522
Trisopterus luscus	943554	NA	NA
Spondyliosoma cantharus	939012	4751	NA
Argyrosomus regius	872576	50310	NA
Raja naevus	848673	NA	NA
Lepidorhombus whiffiagonis	847194	358	NA
Mullus surmuletus	725879	NA	NA
Scyliorhinus canicula	719107	1049	NA
Osteichthyes	705197	NA	NA
Dicologlossa cuneata	659882	16659	NA

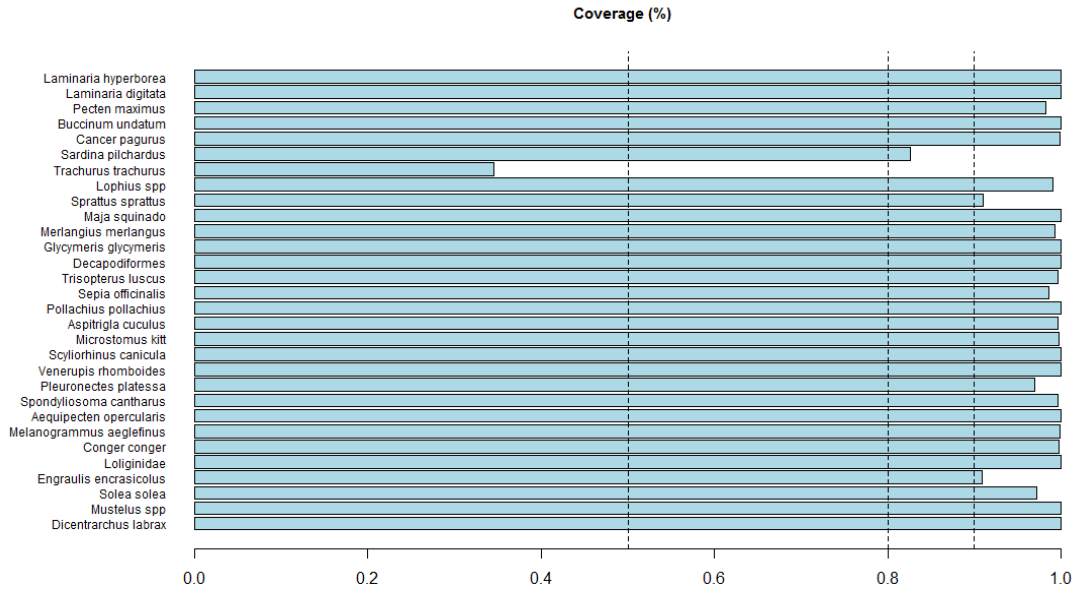


5.2.2.4 Western Channel

Fisheries in the western channel are dominated by France and England. A new feature in this fishery since the analysis in 2013 is the 50,000 tons of kelp being harvested by French vessels; the kelp is being landed for human consumption and being fished by mainly under 10m vessels. Other than that scallops whelks, edible crab, sardine, horse mackerel and Lophius species are the significant species by landed weight. Only for the horse mackerel in western channel would sampling by France and England be inadequate to cover the species.

Table 5.2.2.4. Landed weight (kilograms) Western Channel fishing ground.

	FRA	ENG
Laminaria hyperborea	30915421	NA
Laminaria digitata	21206682	NA
Pecten maximus	8426387	4906144
Buccinum undatum	8397815	2523521
Cancer pagurus	2724050	6561243
Sardina pilchardus	5149119	904318
Trachurus trachurus	542269	1450292
Lophius spp	2980763	2062562
Sprattus sprattus	1963	3319763
Maja squinado	3079519	124978
Merlangius merlangus	2309655	623498
Glycymeris glycymeris	2842637	NA
Decapodiformes	1071	2498305
Trisopterus luscus	1655431	684598
Sepia officinalis	2094034	NA
Pollachius pollachius	1137317	843311
Aspitrigla cuculus	1625542	3042
Microstomus kitt	278780	1329294
Scyliorhinus canicula	1532597	40097
Venerupis rhomboides	1358346	NA
Pleuronectes platessa	323365	971068
Spondyliosoma cantharus	1307073	9146
Aequipecten opercularis	1288614	610
Melanogrammus aeglefinus	798757	359417
Conger conger	986085	99518
Loliginidae	898363	NA
Engraulis encrasicolus	108538	701018
Solea solea	349591	502709
Mustelus spp	866819	NA
Dicentrarchus labrax	581343	196266

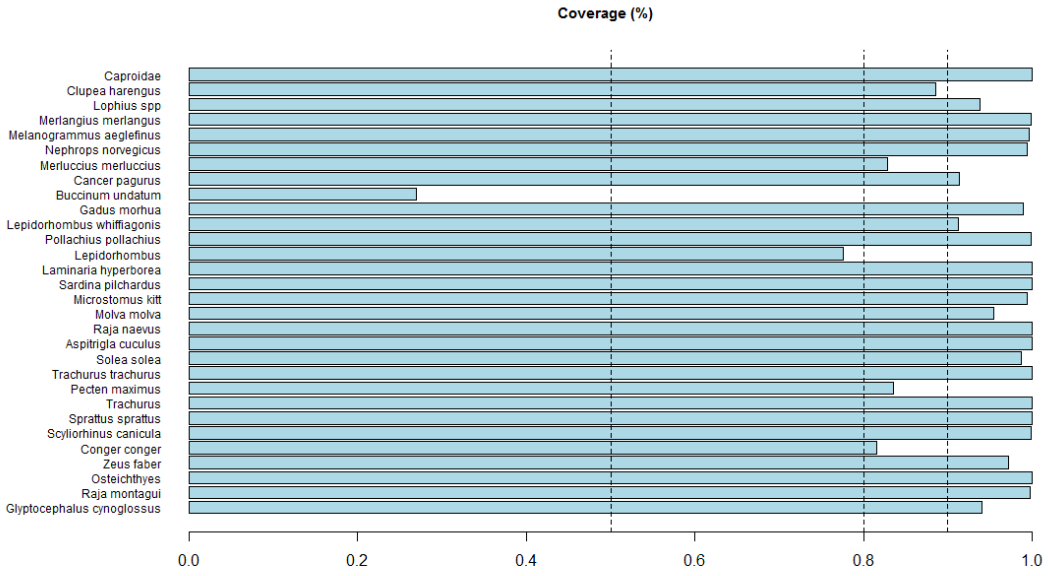


5.2.2.5 Celtic Seas

The boarfish accounts for the largest landed tonnage and the landings of this species into Denmark and the Faroes are the sole reason for the inclusion of these countries in the fishing ground. Ireland, France, England Netherlands and Belgium take the landings for a range of species the main other significant species are the herring, Lophiidae, hake and haddock fisheries. For whelks there significant coverage issues and megrim also falls below an 80% threshold of landings being unavailable in the seven nations with significant fisheries in the Celtic sea fishing ground.

Table 5.2.2.5. Landed weight (kilograms) Celtic Sea fishing ground.

	IRL	FRA	ENG	DNK	FRO	NLD	BEL
Caproidae	4270984	502420	NA	10191106	8366832	NA	NA
Clupea harengus	12973182	243605	19606	NA	NA	1653245	NA
Lophius spp	1606759	5247202	1170095	NA	NA	3175	316690
Merlangius merlangus	4774065	2546703	75811	NA	NA	4607	212842
Melanogrammus aeglefinus	1298199	5046976	141743	NA	NA	1974	95161
Nephrops norvegicus	4169772	439715	447	NA	NA	NA	8154
Merluccius merluccius	1111913	1546798	676496	NA	NA	7	10790
Cancer pagurus	354224	1259635	1828956	NA	NA	NA	61976
Buccinum undatum	NA	38547	826493	NA	NA	67	5102
Gadus morhua	1043800	1512849	138856	NA	NA	5157	134327
Lepidorhombus whiffiagonis	110956	1416715	627184	NA	NA	NA	NA
Pollachius pollachius	582744	859250	613062	NA	NA	1872	58873
Lepidorhombus	1438472	NA	NA	NA	NA	1944	158162
Laminaria hyperborea	NA	2020240	NA	NA	NA	NA	NA
Sardina pilchardus	NA	252471	1564694	NA	NA	NA	NA
Microstomus kitt	358994	557887	151749	NA	NA	8461	361806
Molva molva	389581	645831	186754	NA	NA	2706	71381
Raja naevus	NA	1225306	NA	NA	NA	NA	NA
Aspitrigla cuculus	1546	1169940	400	NA	NA	303	34675
Solea solea	30207	114607	298130	NA	NA	22263	715082
Trachurus trachurus	NA	2386	1577	NA	NA	1179831	NA
Pecten maximus	545545	28619	267799	NA	NA	704	143494
Trachurus	3960	NA	NA	NA	3800	1140083	NA
Sprattus sprattus	956441	NA	175	NA	NA	NA	NA
Scyliorhinus canicula	127634	752850	31461	NA	NA	NA	NA
Conger conger	36024	600551	30372	NA	NA	110	17770
Zeus faber	106185	650630	24045	NA	NA	335	21097
Osteichthyes	756840	12081	NA	NA	NA	NA	NA
Raja montagui	23623	660797	15058	NA	NA	234	NA
Glyptocephalus cynoglossus	368525	188037	9532	NA	NA	637	63284

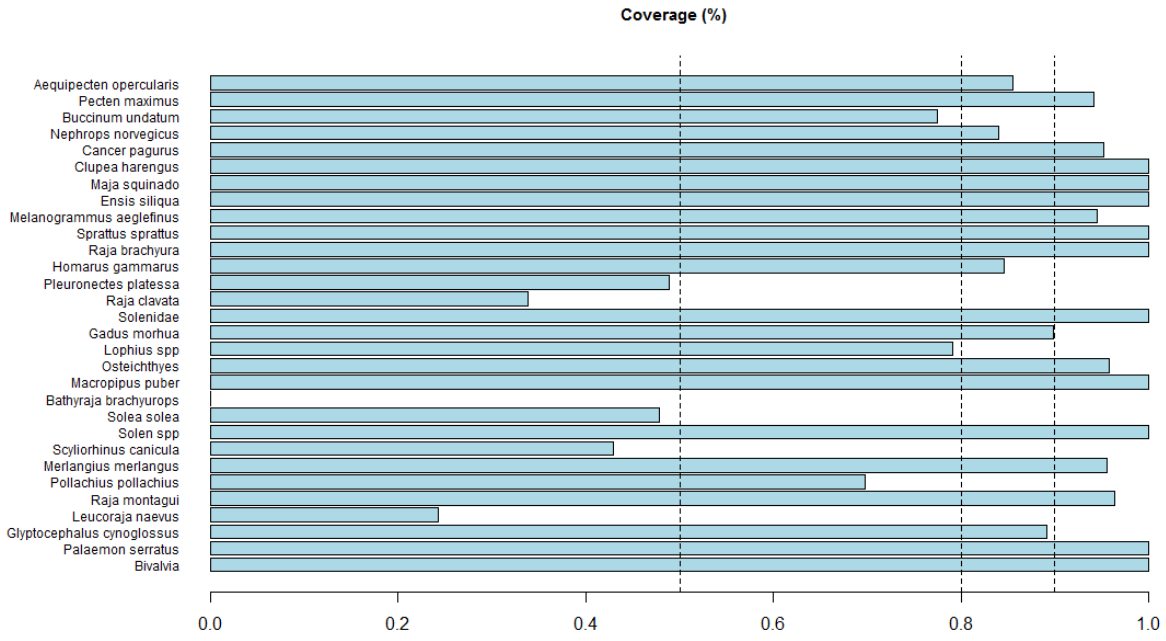


5.2.2.6 Irish Sea

Fisheries in the Irish Sea area are dominated by shellfish species; queen scallops, scallops, whelks, Nephrops, edible crab, spider crabs and razor shells being seven of the top eight species; herring is the most important fish species. Coverage for these species is above the 80% for all but the whelks. However if sampling were limited to Ireland, Isle of Man Scotland and Wales coverage would be less than 50% of the landed weight for place, sole, lesser spotted dogfish and blone, spotted and thornback rays.

Table 5.2.2.6. Landed weight (kilograms) Irish Sea fishing ground.

	IRL	IMN	WLS	SCT
Aequipecten opercularis	1114	3045512	1362385	2857001
Pecten maximus	1872996	1982160	1411440	1110797
Buccinum undatum	1508942	593379	2032472	222122
Nephrops norvegicus	2853644	6520	NA	7291
Cancer pagurus	663288	504642	108841	3517
Clupea harengus	1291859	233	1	NA
Maja squinado	901964	NA	48817	NA
Ensis siliqua	635688	NA	NA	NA
Melanogrammus aeglefinus	517614	2	NA	NA
Sprattus sprattus	486692	NA	384	NA
Raja brachyura	346455	NA	1974	NA
Homarus gammarus	81034	9757	103072	35898
Pleuronectes platessa	119242	84	3760	NA
Raja clavata	51201	45	17048	263
Solenidae	200764	NA	NA	NA
Gadus morhua	146904	82	124	2
Lophius spp	120654	102	178	2338
Osteichthyes	127002	NA	NA	NA
Macropipus puber	125849	NA	1375	NA
Bathyraja brachyurops	NA	NA	NA	NA
Solea solea	42984	6	1014	29
Solen spp	NA	NA	7	72426
Scyliorhinus canicula	29283	NA	9	NA
Merlangius merlangus	58285	3	5	NA
Pollachius pollachius	25064	3823	14	NA
Raja montagui	25537	NA	NA	NA
Leucoraja naevus	5703	NA	NA	NA
Glyptocephalus cynoglossus	20138	NA	1	NA
Palaemon serratus	NA	NA	19081	NA
Bivalvia	18772	NA	NA	NA

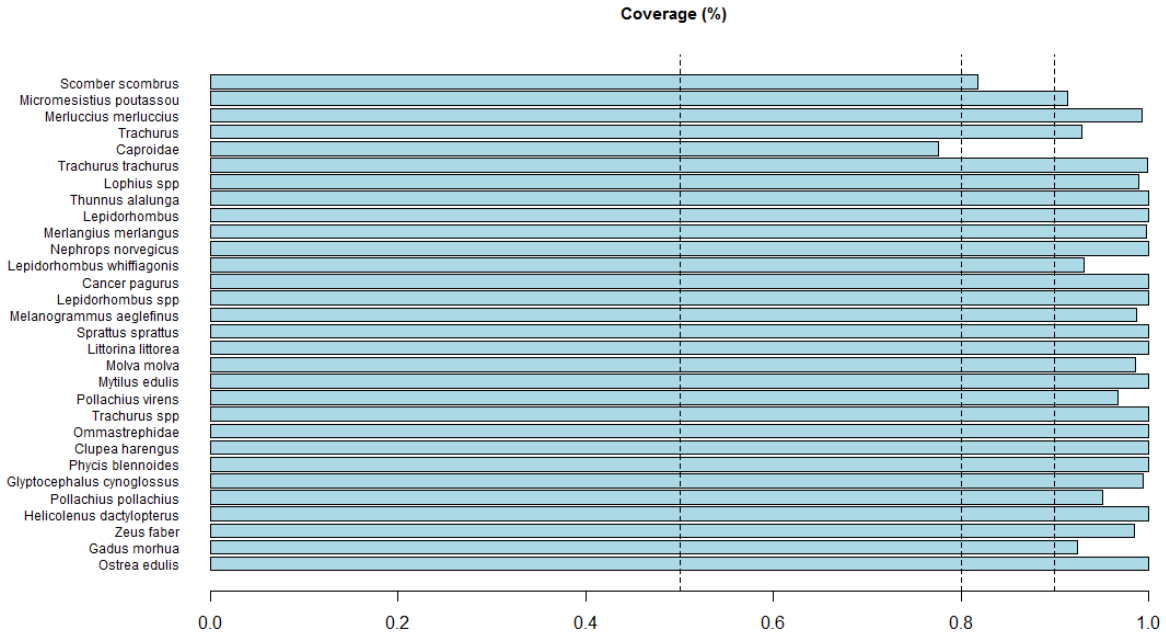


5.2.2.7 West of Ireland

Ireland, Netherlands, France, Spain, Denmark and Scotland all take a significant tonnage of the species landed from the west of Ireland. Small pelagic species: mackerel, blue whiting, hake, horse mackerel and boarfish being the significant species by weight. The combined coverage of these nations would cover over 80% for all the species other than the boarfish.

Table 5.2.2.7. Landed weight (kilograms) West of Ireland fishing ground.

	IRL	NLD	FRA	ESP	DNK	SCT
Scomber scombrus	23227428	14400119	2470196	NA	NA	8582238
Micromesistius poutassou	12702798	13831503	2643965	442	13072833	8465938
Merluccius merluccius	2491618	74735	16654084	15483495	NA	16053
Trachurus	16770974	13926592	NA	4806	NA	NA
Caproidae	10447682	105	NA	NA	4867703	NA
Trachurus trachurus	4329229	9672885	396804	NA	NA	55614
Lophius spp	3691052	NA	6015081	4439284	NA	699
Thunnus alalunga	1818998	NA	5830693	64444	NA	NA
Lepidorhombus	803513	NA	NA	3077365	NA	NA
Merlangius merlangus	2112781	NA	83789	5903	NA	NA
Nephrops norvegicus	1975287	NA	9922	148769	NA	1768
Lepidorhombus whiffiagonis	1024637	NA	136429	458887	NA	NA
Cancer pagurus	1653393	NA	5482	5741	NA	NA
Lepidorhombus spp	NA	NA	1476874	NA	NA	NA
Melanogrammus aeglefinus	795755	NA	534463	13778	NA	NA
Sprattus sprattus	1354808	NA	NA	NA	NA	NA
Littorina littorea	1101500	NA	NA	NA	NA	NA
Molva molva	210774	NA	199855	452809	NA	1260
Mytilus edulis	848000	NA	2682	NA	NA	NA
Pollachius virens	619316	NA	69910	5662	NA	NA
Trachurus spp	NA	NA	679932	NA	NA	NA
Ommastrephidae	NA	NA	NA	674949	NA	NA
Clupea harengus	669205	NA	NA	NA	NA	NA
Phycis blennoides	34248	NA	145514	406608	NA	77
Glyptocephalus cynoglossus	209687	NA	79677	234850	NA	NA
Pollachius pollachius	426450	NA	30769	20845	NA	NA
Helicolenus dactylopterus	49550	NA	50681	364595	NA	2267
Zeus faber	153963	NA	77265	103411	NA	NA
Gadus morhua	189983	NA	112813	9350	NA	NA
Ostrea edulis	335140	NA	NA	NA	NA	NA

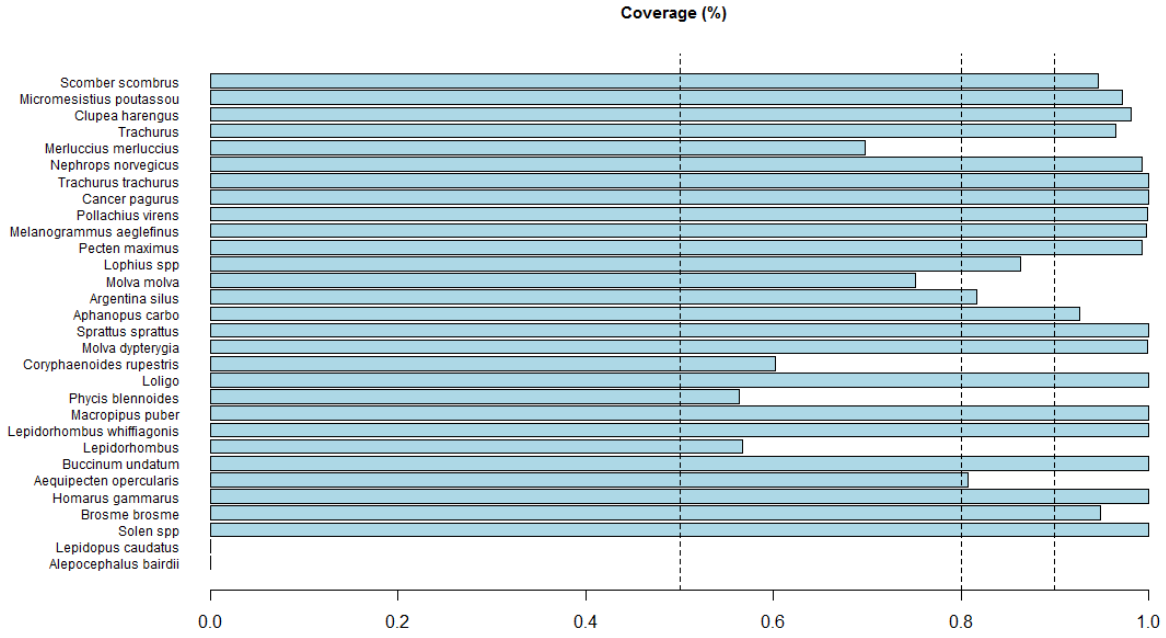


5.2.2.8 West of Scotland

In the west of Scotland fishing area mackerel, blue whiting, herring, and horse mackerel are the main species by weight. These are all wide ranging pelagic species fished landed into a number of different countries; Scotland, Netherlands, Ireland, Norway, Denmark and France. However were the sampling to be limited to these countries there would be significant coverage problems for amongst others megrim, and hake.

Table 5.2.2.8. Landed weight (kilograms) West of Scotland fishing ground.

	SCT	NLD	IRL	NOR	DNK	FRA
Scomber scombrus	58652864	19893261	29802943	42372813	1897574	4011444
Micromesistius poutassou	1219600	38520889	7423342	NA	28718780	5771581
Clupea harengus	8047281	6734029	5431775	4126529	1000	589421
Trachurus	NA	3778367	15608804	NA	NA	NA
Merluccius merluccius	3477155	96618	361074	NA	7600	4163674
Nephrops norvegicus	10676365	NA	56637	NA	NA	NA
Trachurus trachurus	443235	7984966	1656079	NA	1000	194940
Cancer pagurus	6738343	14300	1915330	NA	NA	NA
Pollachius virens	3179627	1960	116839	20187	144123	2903962
Melanogrammus aeglefinus	4378846	NA	748910	NA	399	66703
Pecten maximus	4660450	NA	156643	NA	NA	NA
Lophius spp	2016156	NA	476158	NA	343	1245885
Molva molva	1885660	NA	218057	NA	2197	964591
Argentina silus	NA	3044528	NA	NA	NA	80
Aphanopus carbo	112166	3192	NA	NA	NA	1924739
Sprattus sprattus	1535018	NA	142177	NA	NA	NA
Molva dypterygia	282035	NA	NA	NA	NA	1110086
Coryphaenoides rupestris	7150	NA	NA	NA	NA	640849
Loligo	772214	NA	130474	NA	NA	NA
Phycis blennoides	104343	NA	14130	NA	NA	317671
Macropipus puber	696234	NA	4063	NA	NA	NA
Lepidorhombus whiffiagonis	553569	NA	362	NA	117	124585
Lepidorhombus	NA	NA	338595	NA	NA	NA
Buccinum undatum	191622	NA	298351	NA	NA	NA
Aequipecten opercularis	230755	NA	151942	NA	NA	NA
Homarus gammarus	325223	NA	22353	NA	NA	NA
Brosme brosme	66743	NA	411	NA	249	197922
Solen spp	252602	NA	NA	NA	NA	NA
Lepidopus caudatus	NA	NA	NA	NA	NA	NA
Alepocephalus bairdii	NA	NA	NA	NA	NA	NA



5.2.3 Case study: analysis of the Iberian 2014 data by harbour and fleet.

RCM NA subgroup dealing with the sampling design looked further into the data from the Iberian fishing ground (Fig.5.2.3), considering aspects of the data that were unavailable in 2013, specifically the distribution of landings by harbor, and fleet segment, as well as the sampling data.

It can be considered as an exercise exploring some of the possibilities. Harbor and fleet segment represent a convenient proxy for the sampling frames that would operate in a probability based sampling design. Fleets can be considered as possible stratified groupings of vessels, but obviously these are purely hypothetical situations. Sampling coverage of species/stocks in the Iberian fishing ground in 2014 was also analysed and contrasted with DCF category of each species and ICES needs for stock assessment

The problems which came up when working with data from the RDB in a deeper analysis as this, are detailed in the annex: the need of common port and species codes in all the tables, the existence of different taxonomic resolution in the different tables, the different interpretations of a key variable as trip

Full exercise is shown in Annex 6.

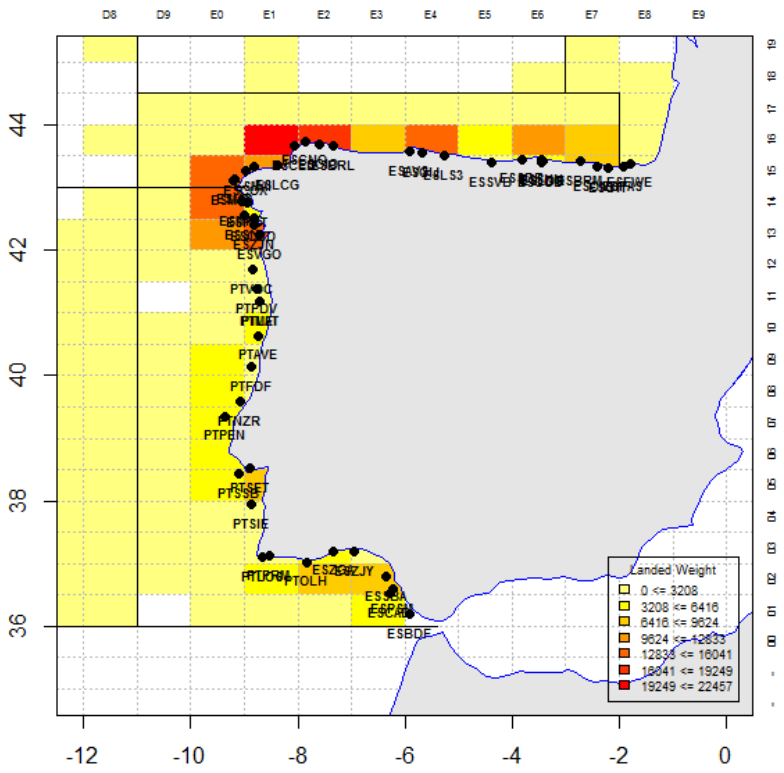


Fig 5.2.3. **The geographic locations of the top 49 landing harbours in the Iberian fishing grounds.**

5.3 Sampling strategy

A Workshop on Implementation Studies on Concurrent Length Sampling [WKISCON2] was held during June 2014 in Sukarrieta, Spain. The workshop stems from a request from RCM NA addressed by the 11th Liaison Meeting to ICES WGCATCH to set up a workshop that would evaluate the utility of the data being collected by concurrent sampling.

The aims of the workshop were to review the implementation of concurrent sampling for lengths by MS, to identify current uses and benefits of data collected in this way, to consider the statistical arguments for carrying out concurrent sampling of landings and to evaluate the implications of discontinuing current at-sea and on-shore concurrent sampling.

WKISCON2 concluded that a) full-species concurrent sampling of the catch at a haul-level is the best way to collect data to measure the interactions between species caught and evaluate the impacts of fisheries on marine biological resources and on the ecosystem; b) to take full advantage of concurrent sampling, full-species concurrent sampling should be implemented without resort to species lists such as the G1 and G2 lists; c) concerning at-sea sampling, concurrent sampling of discards and landings is an established practice by most MS. Some fleets cannot however be sampled at-sea and at-sea sampling is generally more costly than on-shore sampling; d) concerning on-shore sampling, full evaluation of the impacts of concurrent sampling is made difficult by the varying degree of implementation it registers across EU waters; e) where it was applied, concurrent sampling of fishing trips on-shore resulted in substantial increases in species collected without jeopardizing the main uses of data. Though some MS consider that time, cost and workload of human resource are disproportionate given not all data are being used by end-users, concurrent sampling on-shore proved useful in estimation of species composition of catch of mixed-species groups. However, it is prone to bias caused by incomplete sampling and can be an inefficient method of obtaining length distributions of specific stocks when officially reported species compositions (i.e. from logbooks) are considered accurate.

Overall, WKISCON2 concluded that the implementation of concurrent sampling of landings on-shore and at-sea has provided benefits in terms of provision of data for more species. However, more than concurrent sampling itself, statistically sound sampling of the full range of species caught should be the overall aim of future revisions of the DCF and a return to strict stock based sampling should not be an option. To achieve statistically sound sampling of commercial catches various statistical approaches may be valid, concurrent sampling being one among them (WKISCON2).

Statistically sound sampling of commercial catches in the context of RCM

The RCM NA has analyzed and discussed the main achievements of WKISCON2. It is clear from both discussions that concurrent sampling at-sea is a long-established practice in most MS and haul-level and trip level data is already available for current and future uses. Stock assessment and discard estimation and management are the major current uses of concurrent sampling data. It has also been providing other benefits than its initial reason, such as advice to local, national and international authorities, research on MSFD descriptors, mixed fisheries and gear interactions and on mortality of rare species, data-poor stocks and PETS.

Despite concurrent sampling being a statistically valid method for species selection which has proven to fulfill different end-users needs, implementation constraints hinder concurrent sampling on-shore in several MS and only a few MS perform sampling on-shore concurrently. Thus, in order to meet end-users needs and to overcome the constrains that may arise from the implementation of concurrency, particularly on-shore, RCM NA considers that different statistically sound approaches other than concurrent sampling must be developed and tested in the field, so they may provide useful alternatives.

RCM NA also considers stock based sampling is no longer acceptable and that a new design-based approach implicitly requires that commercial catch sampling programs can be optimized to meet multi-purpose end-users needs, such as interactions between species and the impact that fishing activities have on the marine biological resources and on the marine ecosystems. From a regional coordination point of view it is desirable to develop methodologies that allow progress towards data collection on more species and fleets to be maintained and enlarged geographically while ensuring that precision levels of the major current uses of the data, namely single species stock assessment, remain at acceptable levels.

It is RCM opinion that sampling methods shouldn’t be restricted by the regulation. MS applying concurrent sampling can carry out doing it. At those MS that cannot perform sample on-shore concurrently, it has to be an effort so that the diversity of species being landed are effectively sampled. RCM NA put forward the need to analyze other sound statistical methods of selecting species.

RCM NA acknowledges that different sampling and estimation methodologies carry out both different biases and different implementation constraints and that sampling of commercial catches at regional level always involves significant trade-offs, statistical, practical and other, when it tries to meet end-users needs. It is possible that new different sampling approaches might fulfill most of end users need, but not all of them. Thus, it is important to define who will make the prioritization of the end-users needs.

Improving species selection protocols	
RCM NA 2015 Recommendation 4	The RCM NA recommends simulation and practical implementation studies on onshore sampling methodologies with the objective of improving species selection protocols.
Justification	WKISCON2 reported that both MS (questionnaires sent by national correspondents) and ICES end-users see numerous uses and benefits on the data collection of more species that now allow improved analyses of the impacts of fisheries in the marine ecosystem. However, it is also clear that under the DCF not all countries have obtained data using the same sampling strategies and that sampling methodologies other than full-species concurrent sampling may be available that may also provide quality data on more species albeit with different levels of cost/efficiency, aggregation, precision and bias. Requirement to explore and analyse other sound statistical methods for species selection which are efficient in fulfilling end-users needs and consider logistic and operational problems that may arise with the implementation of concurrent sampling, particularly onshore.
Follow-up actions needed	This study could be achieved as one task of an extension of the current project FishPi, particularly taking the advantage of data made available for the project as well as expertise and project products. European Commission to provide continuing funding of project FishPi.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	April 2016

6. Data Quality issues

6.1 Progress in data quality and its reporting in the DCF since RCM NA 2014

Data quality indicators have been considered in some detail in recent years by ICES and STECF Expert Groups in relation to data collected under the DCF. The views of these groups are summarised by the third ICES Workshop on Practical Implementation of Statistically Sound Catch Sampling Programmes (ICES, 2013) which included a report to the European Commission on "Data quality indicators for biological data as input to discussions on revision of the DCF" prepared as a Commission small-scale contract (Commitment no. S12.644592) and also provided as a Working Document for STECF EWG 13-18 on Revision of DCF. The following text draws from this report and adds some additional observations from the RCM NA.

ICES and STECF discussions have identified two core elements of data quality reporting for fleet-based and stock-based biological data:

i) An evaluation of national sampling design, implementation, data management, quality assurance procedures and analysis methods in relation to agreed quality standards. A national programme meeting these standards is in principle capable of providing the desired standard for data quality.

ii) An evaluation of the quality of the data that have been collected, and of derived estimates, using diagnostics and quality indicators that identify potential (or known) bias, and those that provide estimates or indices of achieved precision.

ICES groups such as WKPICS, SGPIDS and WGRFS have proposed that the quality of collected data in terms of precision and bias should be evaluated primarily at a regional / stock level. Quality indicators for national programmes are of limited value in isolation as you cannot easily see how they impact the estimates at a regional or stock scale, or how they can be optimized to improve data quality for stocks or regional fleets. The Regional Data Bases are seen as a work in progress towards facilitating regional data quality evaluation.

A distinction must be made between quality indicators that provide a direct quantitative measure of the statistical precision or bias of estimates derived from the sampling, those needed for monitoring of sampling achievements, and those for indicating the extent of errors in data.

Indicators of precision are a direct measure (or proxy) of the statistical precision of estimates derived from a sampling scheme, and include:

- **Standard errors** (or relative standard errors which are described in DCF texts as coefficients of variation CV), estimated using statistically robust methods that fully account for the sampling design such as multi-stage sampling. They can be used to explore methods for optimising sampling schemes, for investigating impact of data quality on the quality of stock assessments, and for providing metrics of data quality into statistical stock assessment models. CVs are a function of numbers of independent samples (which can be controlled) and

the between-sample variation in the variable being measured, such as discards per fishing trip (which cannot be controlled). Estimates of CV may be biased if the sampling scheme uses non-random sample selection.

- **Effective sample size, ESS**. This is the sample size (e.g. number of fish) for a simple random sample that would yield the same standard error for an estimate as the standard error obtained from a more complex design being used to collect the data, for example a stratified random, multistage cluster sampling design to estimate size compositions. If the variance of fish length is greater between fishing trips than within trips, the ESS will be much lower than the total number of fish measured, and the latter becomes a misleading indicator of precision. ESS is useful mainly for evaluating design effects – i.e. the improvements (if any) in precision gained by more complex sampling designs such as stratified sampling – or for input to statistical stock assessment models.
- **Number of primary sampling units** sampled. Where there are very strong cluster sampling effects, this can be a crude proxy for effective sample size. It can provide an approximate indicator of the relative precision for two or more similar sampling schemes, for example discards estimates for different sampling strata. For example if there are 3 PSUs from one stratum and 30 from another, this is a clear indication that precision will differ widely and that the estimates for the stratum with only 3 PSUs will be extremely unreliable on their own.

A task of regional coordination could be to determine the number of sampled trips by country that would on average yield a desired CV at the regional / stock level given the typical variability. The performance of countries in achieving the desired number of samples can be monitored independently of the actual CVs of estimates derived from the sampling, but regional sampling programmes could be adapted over time if they are not delivering the desired CVs.

Indicators of sampling achievement should be derived from elements of sampling that are most strongly related to the accuracy (precision and bias) of derived estimates, and which can be controlled. CVs are not appropriate for this. Taking discards estimation as an example, the same sized sample of random, independent fishing trips each year could lead to widely varying CVs of annual estimates due to the extremely variable discarding between trips. The CVs would also vary widely between species according to variability in discarding or the frequency of occurrence of species in fishing trips. Appropriate indicators for sampling achievement include:

- **Number of primary sampling units** (e.g. fishing trips sampled for discards or length/age data). This is the most controllable aspect of sampling design.
- **The number of secondary or lower level sampling units** (e.g. numbers of fish measured or aged from all the PSUs) may provide additional useful additional information in combination with numbers of PSUs sampled. However, on its own it may often be inappropriate as a sampling target and as a measure of sampling achievement. This is because most fishery sampling involves cluster sampling where many fish are collected from each PSU, and there is typically less variation in fish size or age within each PSU than between the PSUs sampled. It

is also a less controllable aspect of sampling design than a PSU, for example because of changes in fish abundance and availability for sampling.

These indicators are most useful when presented for individual countries and sampling strata so that gaps in sampling can be identified.

Indicators of errors in data should be derived from agreed quality control procedures, for example using software routines to scrutinise data in national and regional data bases. This is dealt with in detail in the 2014 report of the North Sea and Eastern Arctic RCM, and routines for the regional data base are being developed in the current EU project MARE/2014/19 - "Strengthening regional cooperation in the area of fisheries data collection".

STECF and other expert groups have advised that the DCF should not contain prescriptive precision targets such as target CV values, and that national programmes should not be evaluated using achieved CVs. However it is important that the precision of estimates needed by end-users, and the achieved precision of estimates, are available to the Regional Coordination Groups. This is needed so that sampling can be optimised across countries and stocks to deliver end-user needs in a cost-effective way, and to advise the Commission and end users when the needs cannot be met with existing programmes and the methods and costs of obtaining the requested data.

6.2 Stages in data quality assurance and quality control procedures

It was discussed whether to continue developing last year table summarizing possible quality checks in national data bases (data entry and data processing). The group decided not to continue with this work at this stage, considering that the work presented in RCM NA 2014 allow a comprehensive review of the different aspects affecting the quality of the biological data. RCM NA will consider this work (Annex 7, Quality control procedures) for future developments.

7. Regional Database

7.1 ICES update on RDB / Status of the Regional DB

7.1.1 Harbour codes

This year only LOCODE were allowed for harbour codes and the checks in the RDB was updated, and that has resulted in the most harmonised RDB data so far. LOCODE is a 5 alphanumeric code (typically only alphabetic characters) where the first 2 is the ISO country code and the last 3 is the harbour code. The LOCODE reference list is the Code-location under the EC's Master Data Register, the current version is Code-locatioon-v1.7.xls,

https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp?FormPrincipal:_idcl=FormPrincipal:libraryContentList:pager&page=1&FormPrincipal_SUBMIT=1&org.apache.myfaces.trinidad.faces.STATE=DUMMY

ICES has:

- Updated all existing LOCODE with correct harbour name (Gr+ñs+Â to Gräsö)
- Added missing LOCODE
- Automatically found the correct LOCODE where there was a match on the harbour and updated to LOCODE
- Deleted 1768 none-LOCODE harbours

There is still some harbour codes which have not been substituted with LOCODE, where an obvious LOCODE harbour have not been identified. In the coming time ICES will contact countries, which will be asked to map the outstanding harbour codes to LOCODE codes. ICES will then make the final update.

7.1.2 Metier acceptance per area

This year the only specific metiers were allowed depending on the area. ICES received a matrix of valid metiers and fishing grounds. ICES then changed from the previous metier check to a tailored metier check where each metier is checked based on the area. If a country have a metier, which is not accepted, it should be tried to find a substituting valid metier from the list send with the data call. If that is not possible the country should take contact to the RCM chair who maybe together with experts should be able to advice on what metier to use or if the metier need to be allowed, in such case ICES should be contacted for adding the new valid metier.

7.1.3 Data exchange format document

A new version of the RDB exchange format document has been sent out and it is available on the RDB website, http://www.ices.dk/marine-data/data-portals/Pages/RDB-FishFrame.aspx , and in the RDB. It is not a new exchange format, it is the same data exchange format, but the document have been made

simpler, references have been corrected and updated, and the document have been made consistent with the existing checks.

7.1.4 Data Policy document

Before last year's RCM an updated version of the Data Policy document for the RDB was sent to all national correspondents for acceptance and support. All countries except France accepted and supported the Data Policy document and a few countries had comments or questions. Since last year ICES have compiled all comments and questions and the SCRDB have given answers, which was send to all countries.

At the National Correspondent meeting in Brussels the 25th March 2015 the European Commission (EC) informed all Member States (MS) that EC sees the Data Policy as an important and the EC lawyers agreed in the content of the document. Therefore, the EC encouraged all MS to sign in for it - including France.

7.1.5 EC feasibility study on storage and transmission

The EC's feasibility study on "Scientific data storage and transmission under the 2014-2020 Data Collection Multi-Annual Programme (DC-MAP)" concluded that the majority supported scenario 4 referred to as "Fisheries data hub", which is a structure not so far from the structure today, with data uploads to the RDB at ICES, see the figure 7.1.5 below. However, with indications of in the future to have a more streamlined data flow.

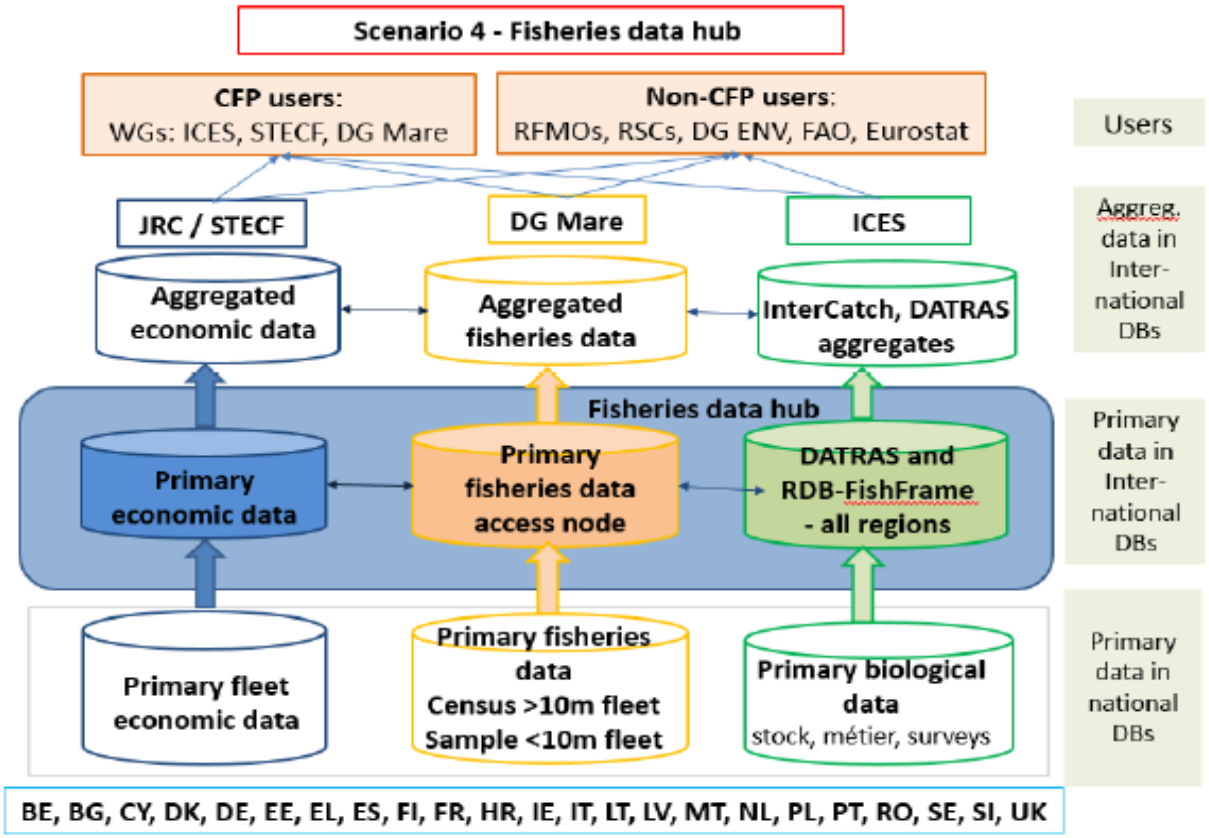


Figure 7.1.5. Preferred scenario 4 – Fisheries data hub.

However during the video conference on Monday the 14th of September with representatives from the EC, the EC informed that there would be a new call for a new feasibility study later this year.

It is difficult for the countries in the RCM BS, NS & EA and NA to understand that, while the EC expect the RCMs to make regional coordination based on data (which comes from the RDB), make progress on data quality, new landing obligations and move into statistical sound sampling and raising (which should all be implemented in the RDB), the EC is not providing funding for the development of the RDB, which is essential for moving forward. The RDB is the most cost-efficient tool to use to harmonise, document and ensure standardised quality control and estimation methods.

7.1.6 The RDB strategy

There are many benefits of having the RDB; common quality check also across countries, standardised methods to raise/estimate fisheries data, efficient standardised reports and analysis. Looking at the raising/estimation methods it is essential to only be able to raise/estimate data with approved and documented standardised methods, and it is also essential to be able to document all

data processing steps. The move towards using statistical sound raising methods is ongoing in the FishPi project, WKRDB and WGCATCH. The starting points have been the R methods in the R survey. When the method have been approved and finalised, the most cost effective way to use these methods is to include the methods directly into the RDB using version control. Using standardised raising methods is one thing. But it is also essential that the national institutes after uploads and estimations can extract the data from the RDB, so they can verify the uploaded data and follow the data through the processing steps. In the figure 7.1.6 below the future RDB system structure is shown.

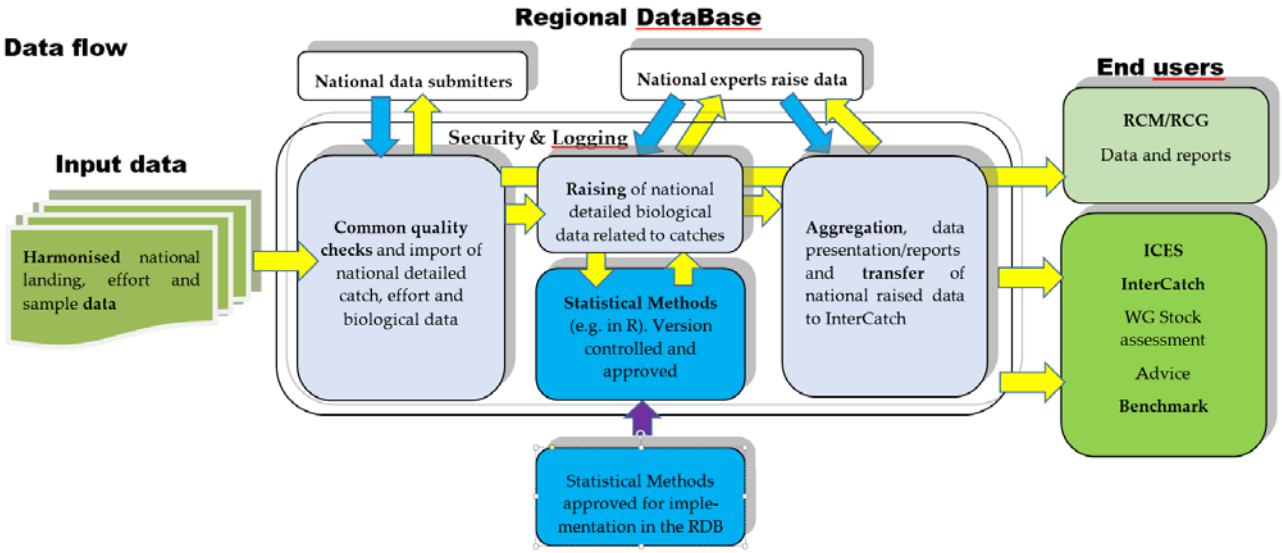


Figure 7.1.6 Future RDB system structure

7.1.7 ICES one time funding of development of the RDB

The RDB increases the data quality, ensure standardised raising methods and documentation. It is therefore very important that there is funding for development of the RDB, so the RDB is able to adapt to new demands and there is progress. The European Commission (EC) have so far not funded developments of the RDB. But in September 2014 the ICES council delegates approved an one-time development of the RDB for 91 000 EUR, because ICES sees the need for development. The focus have been on harmonisation, quality control and new analysis reports.

7.1.8 RDB funding in the future

The RDB have for several years been the essential system for data for analysis for the RCM Baltic Sea, RCM North Sea & Eastern Arctic and RCM North Atlantic, and it can support the Member states in raising national data and answering data calls. The RCMs depend on the RDB, and the data for stock assessment and advice to the EC also depend on data quality, standardised proven raising

methods and documentation, it is therefore difficult to understand that EC is not funding developments of the RDB. The RDB is a large and complex system with a large relational database behind it and complex data manipulations, algorithms and methods. The RDB is the most cost efficient way to work with all the data from all the countries because the raising processing and processes for all data is more or less the same. Since the environment around the RDB is continuously changing with new needs and demands, it is essential that there is funding for development. The most natural way of funding RDB development would be to include RDB development in the existing Memorandum of Understanding (MoU) agreement regarding the RDB between EC and ICES. This will ensure qualified resources, who would be able to implement new needs and demands, in the most cost efficient, safe and successful way. It would not be a sustainable approach not to have a longer term funding for development of a system like the RDB. If developments had to be funded by projects, there would first of all be a long time delay from a need is identified to a call for tender, to a project proposal, to acceptance, to project start and finally the implementation. However, there will also be an overhead in writing a project proposal, as setup the administrative organisation. People would have to be hired on short term contacts, with the risk of not knowing exactly the skills of the new project resources. Then there is the steep and long learning curve of the large and complex RDB system. Such a scenario is not cost efficient and would not benefit any parties. Therefore it is recommended that development of the RDB is included in the MoU between EC and ICES. It would also seem natural that EC is interested in progress and stabile development of the RDB, especially after the conclusions drawn from the feasibility study on storage and transmission.

7.2 SC-RDB update

The steering committee for the regional database (RDB-SC) met 25-26 November in Copenhagen, Denmark. It was the sixth meeting of the committee. Participants were representatives from the RCM Baltic, RCM North Sea & Eastern Arctic, RCM North Atlantic, ICES as well as observers from the RDB-SC for large pelagic fish (LPF) and Ireland. The RDB-SC is responsible for strategic planning, technical governance, operational issues and estimates of costs in the overall governance of the regional database (RDB). The RDB-SC interacts with the Regional Coordination Meetings (RCMs) and Liaison Meeting (LM) on other tasks such as development needs and content governance.

Throughout the year have a long row of recommendations on development needs for the RDB been directed towards the RDB-SC. The recommendations origins primarily from the RCMs and LM but also from expert groups dealing with methodological aspects of data collection. The recommendations cover a wide range of aspects such as harmonization of reference lists, reports from the database to the RCMs, possible reports to make compilation of technical reports to COM more efficient, uptake of upload logs, adaptation of the exchange format to meet expected requirements coming from a design based approach, landing obligation and regional sampling programmes but also future estimation processes and interaction between InterCatch and the RDB. As there presently are limited funds (no EU funds for development) for development are however the possibilities to act upon the

recommendations limited. Nevertheless the RDB-SC discussed all different recommendations and initiatives, sorted them into a short, medium and long term time scale and suggested ways forward were possible. A new workshop, RDB VI, was initiated within this process. The workshop will deal with exchange format for effort and landings data to meet requirements for design based sampling and estimation. The workshop will be held in Sète, France November 2015.

The RDB-SC further went through all comments from the MS on the data policy document and prepared generic answers.

7.3 RCM NA membership of the SC-RDB

After the RCM NA 2015 chairs were informed by Nuno Prista about the impossibility to go on representing RCM NA in the SC-RDB. According to the RCM NA 2014 agreement, a representative with expertise in southern fisheries should be nominated by the RCM NA 2016 (or intersesionally if needed by the SC-RDB).

7.4 Upload to RDB

7.4.1 Analysis of data from 2015 RCM data call

For the purpose of analysis of the sampling activity carried out in North Atlantic and for quality check possibilities, the data call for the 2014 data was launched and MS requested to submit national landings data (CL), effort data (CE) and commercial sampling data (CS) at DCF level 6, to the Regional Data Base (RDB). MSs were asked to ensure upload of all data for all species and all metiers for 2014 and not only the major species and major metiers to the RDB FishFrame hosted by ICES.

For the RCM's held in 2014 data calls were launched and most Member States have uploaded their data for 2009-2013. For this year, in cases the data for 2009-2013 have been updated since last year's upload, MSs were also encouraged to upload the updated data as well. The RCM NA has evaluated the performance of the submission and the content of the database.

All countries, except France and Northern Ireland, have uploaded landings (CL) and effort (CE) data, and all countries (except France) have uploaded sample data (CS) for 2014. Spain has uploaded data in the RDB for the first time and many countries have updated data for previous years, which is very positive. ICES have made many improvements the last year, both on the maintenance side but also on the administrative side, which allows a more effective upload by the Member States.

Tables 7.4.1.a and 7.4.1.b provide an overview of what data is on the system. The numbers of species in landings and sample data and the numbers of metiers in effort data seems in general data stabile, which indicate all data have been uploaded for the countries uploading data.

Table 7.4.1.a **Number of species in landings data (CL), number of species in length samples (CS) and number of species in age samples (CA) for each year, for each RCM NA Member State. Current year uploads are highlighted including changes related to previous years. ( ) indicate the number of species uploaded this year relating to last year's upload.**

Year	2009			2010			2011			2012			2013			2014		
Flag country	CL	CS	CA	CL	CS	CA	CL	CS	CA	CL	CS	CA	CL	CS	CA	CL	CS	CA
Belgium	49	10	7	55	24	7	50	10	7	55	10	7	47	14	3	56	14	4
England		111	12	116	114	16	115	107	19	120	136	20	118	112 (-3)	10	115	100	16
France				123			122			98	1							
Germany		4 (+4)	2 (+2)	8	10 (+10)		10	3	3	17	4	2	15	14	4	13	19	2
Ireland	119	113	12	129	116	13	121	126	13 (+1)	126	125	13 (+1)	124 (+3)	107 (-1)	12 (+2)	112	109	11
Netherlands	44 (+11)	13 (+1)	5	48 (+15)	9 (+4)	4	49 (+15)	19 (+3)	5	48 (+13)	8 (-1)	4	47 (+12)	10 (+4)	5	30	11	6
Northern Ireland		4	3	59	10	5	60	24	6	64	3	1	54	4	2 (+2)		4	
Portugal	197	213 (+106)	7 (+1)	203	214 (+106)	6 (+1)	196	235 (+124)	7 (+1)	328 (-19)	224 (+110)	7 (+1)	315 (-23)	233 (+124)	8 (+2)	335	228	5
Scotland		5	5	110	24 (+2)	11	102	28	11	108	27	13	98	126 (-2)	12	93	102	12
Spain																76	207	9
Wales		24	3	79	2		76	3	1	69	9	1	61	1	1 (+1)	65	9	1

ICES corrected/updated codes and inserted e.g. more than 100 new species which reflects the changes highlighted for previous years. Those improvements to RDB allowed to some MS to increase substantially the upload in number species and a general revision of data submitted previously.

Table 7.4.1.b Number of metiers in effort data (CE) for each year, for each RCM NA Member State. Current year uploads are highlighted including changes related to previous years. ( ) indicate the number of species uploaded this year relating to last year's upload.

Flag country	2009	2010	2011	2012	2013	2014
Belgium	4	4	4	4	6	6
England		99	92	102	97	94
France		51	52	53		
Germany		6	4	5	4	4
Ireland	24	25	24	24	23 (-1)	19
Netherlands	9	12	8 (-1)	15	8	3
Northern Ireland		29	26	24	26	
Portugal	19	20	18	18 (-1)	19 (-2)	17
Scotland		67 (+1)	58	63	55	53
Spain						32
Wales		32	36	37	31	28

7.4.2 Data Upload Logs

RCM NA 2014 recommended the adoption of a standard log which should be submitted at the time of each data call to provide RCGs and data users with a reference to what data is not on the system, imputation rules which have been applied to uploaded data sets, data interpretation issues, incomplete reference tables or needs for database development. Several MS came up with populated upload logs and 58 issues were combined in a unique report and assigned to one or both categories: "Data interpretation issue" and "Database development issue". For this report to be meaningful each issue must be scrutinized and a follow-up action needs to be addressed to the relevant group and/or MS.

An analysis of the upload report highlighted the need for distinct actions. Few cases showed the need to go back to MS and ask for more detailed descriptions; in some cases the issues have been previously assigned to the SC-RDB and still pending and in most cases a decision has to be taken by the RCM before being forwarded (i.e. new attributes, amendments on reference tables).

It is RCM view that these issues have to be addressed intersession by a limited group of RCM participants, preferably led by a SC-RDB member and each MS must appoint a focal point. This intersessional work is to be finished before the SC-RDB.

RCM endorses a recommendation for intersessional work on data upload log issues.

RCM NA: Upload logs	
RCM NA 2015 Recommendation 5	The RCM NA strongly recommends that: 1. those upload logs not depending on RCM decisions are to be taken into account by the SC-RDB and RDD support; 2. each MS appoints a person to work on intersessionally sub-group to deal with those upload logs pending from RCM decisions; 3. If relevant, MS to consider reload all their data and update the upload log on next RCM data call;
Justification	Though the database support has improved substantially, its development is a continuous process which has to be enhanced based on user's feedback. There are still inconsistencies and errors in the data on the RDB that have been caused by the IT system design itself, by non-restrictive reference lists or due to insufficient data checks by MS. Data gaps limit the potential for data analysis and delays RDB use on the regional coordination process. The data call for the RCM 2015 was forwarded together with an upload log from de RCM NA report to be completed so that users can assess the limitations of the data and therefore what interpretations or analysis can be done with it. The RDB will be developed to record the status of the data within it, but until this feature is available a standard log submitted at the time of each data call can provide RCGs and data users with a reference to what data is not on the system as well as what is. Given the amount of issues listed pending from RCM decisions and the workload behind its scrutiny, intersessional work is required. Once analyzed and an action is set, the upload issues are to be addressed to the SC-RDB. If there are actions not pending from The RCM decision, the upload issues must straight assigned to the relevant responsible.
Follow-up actions needed	1. Upload log to be addressed to SC-RDB; 2. Upload log issues pending from RCM decision to be analyzed intersessionally by persons appointed by MS; 3. RCM chairs to include an updated upload log in data call 2016 and, when relevant ask MS to consider reload their data.
Responsible persons for follow-up actions	
Time frame (Deadline)	Upload log 2015: before SC-RDB 2015 Upload log 2016: to include in data call 2016 Reloading of data and submitting of upload log to RCM chairs: by deadline specified in data call 2016

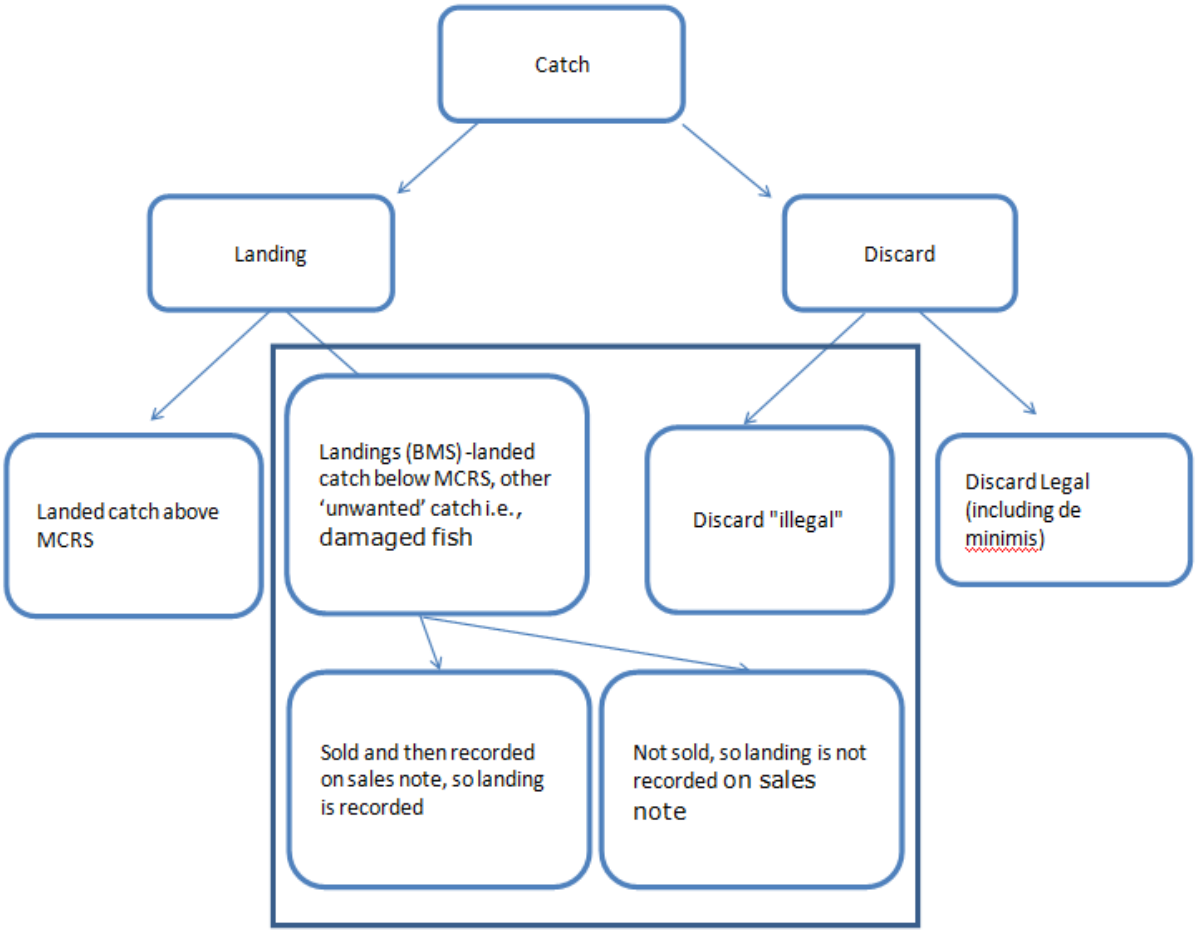
Landings Abroad	
RCM NA 2015 Recommendation 6	RCM NA recommends that present situation in the sampling and estimation of landings abroad is reviewed and that the ICES data centre ensures that the RDB can hold accurate data on the landings abroad fraction of the catch.
Justification	Landings abroad constitute a substantial fraction of the landed catch, a fraction which needs to be sampled adequately and for which estimates are required. The number of records within the RDB would suggest either that foreign landings cannot be uploaded and stored adequately, or that there is very little sampling of foreign vessels occurring.
Follow-up actions needed	ICES data centre to ensure that sampling data derived from landings abroad can be uploaded, and that this data can be stored correctly within the RDB. WGCATCH to review the present situation in the sampling of foreign vessels, and the methodology employed to estimate landings abroad. SC-RDB to analyse data policy implications.
Responsible persons for follow-up actions	ICES data centre, WGCATCH, SC-RDB
Time frame (Deadline)	To report back to the RCM in 2016

8. Implications of the landing obligation

To address this ToR the RCM reviewed the experiences of MS at the RCM. In terms of evaluating the impact on data collection, there is only limited experience as the current implementation only covers Pelagic and Industrial fisheries in this region but MS have been preparing for the implementation where they can. Concerns about the impact have been discussed and reported at, and advice given by numerous ICES, STECF and RCM meetings in the past. There is still concern within ICES and RCMs that we appear to be playing catch up on the implementation of discard plans and having to deal with amendments to control regulations without any apparent influence despite the STECF EWG14-02 - recommendation that discard plans include proper consideration to the data requirements. Discard action plans appear to have little regard for data needs or requirements.

We therefore are limited in what preparation can be made on how we deal with the data that might be collected by the control agencies and what that data might represent. It is likely that we will be asked at national or regional level for advice in relation to the impact of regional discard plans in specific fisheries without having access to these plans or control data of sufficient detail required to categorise or define fleets affected by these staged obligations.

The flow diagram below provides an overview of the different components of the catch to be referred to in this section. For simplicity the RCM will adopt the term “Landings (BMS)” to describe the new landed component – the unwanted landings, undersize landings or landings which were previously known as discards. BMS (Below Minimum Size) is a presentation code already listed in the Master Data Register to cover this component of the landings and is being adopted in the revision to the Commission implementing regulation 404/2011.



8.1 Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation

Currently it is not possible to clearly evaluate the impact of the landing obligation as it was only introduced in 2015 for pelagic and industrial fisheries in all EU waters. In 2016 vessels where 10% or more of their total landings in 2013 and 2014 were from a combination of cod, haddock, whiting and saithe will have to land haddock. Vessels where 30% or more of their landings in 2013 and 2014 were *nephrops* will have to land all *nephrops*. Vessels which meet both conditions will have to land both haddock and *nephrops*. All long line vessels will need to land hake. Similar catch thresholds for sole are applied to trawl, beam trawl and net fisheries

It is currently perceived that this year is a transition period for the pelagic fisheries and that these fisheries and control agencies are not fully implementing the LO (managing but not enforcing). As a result MS did not have a lot of comments on the current year and are in general preparing for next year.

During the meeting it was decided to gather further information to address this ToR by getting member states who were present to fill in a table on 'Monitoring the impact of the landing obligation on data collection in the North Atlantic region' outlining the current state of play. These tables are presented in Annex 8.

The table below is a completed example. The documents will be kept live on the RCM SharePoint.

		UK_England	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	Not tested	Not tested
	Sampling procedures	No	Not tested
	If yes - how? If no - why not?	We currently do not sample these fisheries.	Our sampling sheets are generic and will record BMS landings as another category of landings. We have reviewed our systems and will be able to add the category of landings to the 'Source' on the database. We will need to change the size validity checks to allow these data to be entered. We do not know how these landings will be treated at each landing point yet.
2	*Has the MS successfully adapted their offshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?	We currently do not sample these fisheries.	Catch quota vessels (CCTV pilot) have been sampled as part of the current observer programme and the retained unwanted component is given a specific category code. The database can handle the length data. The generic sample sheets do not need changing. The database does need to be ammended to accept the age data for this category.
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	No	Not tested
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	Yes	Yes
	If yes - what? Percieved, annecdotal, measureable?	Only percieved - a slight increase in refusal rates for other fisheries sampled. Possibly an indication of discontent overall rather than directly as a consequence of the landing obligation.	The fisheries affected by these landing obligations will fall within our observer programme 2016. It is unknown how the enforcement of this obligation will affect our access.
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Yes	Yes
	If yes - what? Percieved, annecdotal, measureable?	From discussions with control agency reps. Our National database has BMS code and facility for including this data. Have not reviewed what has been recorded for these fisheries. It is unclear how the sales note data currently used to monitor the under 10m fleet will be able to record the unsold component of the BMS landings.	Meetings have been proposed between the Control agencies and NCs and Science agencies to review how this data might be managed or extracted in a useable form.
	If no - why not?		
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	No	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	No	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	No	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	No	
	If yes - what?		

RCM NA considers this table to be a live document which should be filled in year on year as the Landing Obligation is phased in. This table will then serve to provide an historical record as countries can document the changes year on year and will also provide guidance and act as a learning tool to all member states on how other countries are implementing the LO. There is a possibility that more questions will be added to the table as this process progresses. The answers are collated and summarised below. Other RCM's may want to look at this approach.

Preparation for onshore sampling: Most countries who are sampling pelagic fisheries ashore have been able to incorporate the additional sampling within their current programme but have not been tested extensively. Preparations are ongoing to facilitate the collection of additional data for 2016. Some countries are waiting for the outcomes of the Discard Management plans and others are conducting pilot studies. Concerns were expressed over how the BMS fraction of the landings will be treated ashore and the possible implications for sampling. MS need to ensure their databases and data sheets can record and easily define either multiple categories of discards or multiple categories of retained landings including the BMS landings. Some countries have already started to update their data bases.

Preparation for offshore sampling: Countries who currently sample off shore for the pelagic fisheries have either implemented or are in the process of implementing the changes necessary to sample these fisheries. MS are in the process of implementing relevant changes (sheets, protocols and data bases) and in addition some MS are conducting pilot studies and trials for the 2016 programme. Some are still waiting for the outcomes of the Discard Management plans.

Impact on access to vessels and landings Countries with an off shore sampling programme did not have any issues relating to access to vessels; however one comment was made that there was a perception that getting access to Demersal and *Nephrops* vessels was getting more difficult but this could also be linked to lack of quota. Another country also expressed concerns and expected that there will be a significant increase in problems.

Preparation by control agencies: Countries have a range of answers; from no evidence to yes there is some evidence of BMS landings being recorded. One country expressed that it is unclear how the sales note data currently used to monitor the under 10m fleet will be able to record the unsold component of the BMS landings.

Impact on data quality: Most countries have not yet tested their data for any changes in quality. One country is currently finding methods for optimal sampling to maintain quality as a consequence of changes in industry practice. Another country expressed concerns that the random selection of vessels may be affected.

Impact on fishing behaviour: Most countries did not see any impacts however one noted that there was some anecdotal information on changes in behaviour. Another country noted that in some fleets it

has seen a strong reduction in the catch of species with high levels of discards (Horse mackerel, Great Silver-smelt, etc.). The cause is unknown.

Analysis for Observer effect: One country is analysing the behaviour of demersal trawlers in preparation for the pending 2016 implementation otherwise no work is being done yet.

8.2 The operation of at-sea observer programmes, and the role of scientific observers under the regimen of the landing obligation

The introduction of the landing obligation might lead to the perception that at-sea observer programs can be reduced or totally stopped. RCM NA is strongly of the opinion that at-sea observer programs need to be maintained by MSs.

The landing obligation only applies to TAC species. Therefore, information on discards of non TAC species will not be available without running observer programmes. Moreover, concurrent sampling schemes are required to provide data for ecosystem impact, MSFD assessments, PETS and other requirements.

Experiences in the Baltic region have shown that, since the landing obligation was implemented on 1st January 2015 for cod, salmon and pelagic species, recorded catches of cod below the minimum reference size (BMS), which should be landed, are not reflected in the observed catches of BMS cod. If reliable estimates of catches are to be used when carrying out stock assessment the only solution is to continue the observer programmes, as recommended by the RCM NS&EA 2014 and RCM NA 2014 and endorsed by the LM 2014.

The landing obligation is applied fishery by fishery. Details of the implementation are included in specific discard plans. These details include the species covered, provisions on catch documentation, minimum conservation reference sizes, and exemptions (for fish that may survive after returning them to the sea, and specific *de minimis* discard allowances under certain conditions). There will probably be no fisheries or species where observers' programmes can be discontinued in order to get reliable discard information for the catch fractions dealt within these exceptions. Exemption rules for certain fisheries may even lead to the necessity for the sampling of fisheries which were not sampled before. Another issue is the controlling of the compliance of the landing obligation and discard plans. Using scientific observers also for compliance control would change the role of the observers drastically and will certainly lead to a strong observer effect.

Defined fisheries will get exemptions from the obligation on the basis of survival rates of certain species which will need to be applied to the discard estimate for these fisheries in any assessment. Sampling will need to be at sufficient resolution to capture the discard rates in these fisheries.

Even without changing the observer role there is concern that the landing obligation could increase a perceived observer effect where having an observer on board affects the fishing operation (perceived affects might be the skipper changing fishing grounds for the trip or the crew changing their discard

practice). This is difficult to quantify. WGCATCH (WGCATCH 2014, Tab. 4.5) made suggestions for analysing this effect e.g. comparing the length frequency distribution of the landed fish from trips with and without an observer (observer vs. onshore) or by comparing the species composition in logbooks for a fleet segment within a period and area with observer data and between vessels. RCM NA recommends that MSs keep an eye on possible effects and – once the landings obligation are fully implemented – undertake studies to analyse the possible effect.

The continued need for observers is reiterated in the response to the EU MAP questions on scientific observers (Annex 3).

8.3 Quality and integrity of catch data collected by the control agencies, i.e. logbook sales note data.

Catch data has only been collected under the new landing obligation since January 2016 and for relatively clean fisheries in the NA. Whether the control agencies were ready to record and process the additional landings data from that point is not clear and this data has not been evaluated. The RCM is not in a position to review this data but sees considerable benefit in being able to do so. However, the discarded fraction and Landings BMS component needs to be part of the data call for this RCM and the RDB needs to be in a state to receive this data in both CL and CS tables.

We have no input to or experience of monitoring for control data but these data are crucial to qualify the biological data we collect. From the outset, the EU and ICES expert groups (RCMS, STECF, PGCCDBS, WGCATCH) have been very vocal with their concerns. These include the impact of the landing obligation on the quality of the control data (landings, unwanted landings, and discards).

The control data derived from logbooks is the main input data for stock assessment. It is the population data for our sampling programmes, the sum of the removals that feed into assessments and advice - we are totally reliant on this data for describing and defining the populations and for managing regional sampling plans. As all stock assessment models are very dependent on time series it is very important the different components can be comparable between years. We cannot afford to underestimate the impact of fishing effort on recruits to a fishery. Blurring the distinction between the different components of the catch increases the uncertainties around any catch estimates derived from the sampling programmes and undermines any potential advice in reference to catch options or effort management from the assessments using these data.

The data needs for compliance and the data requirements for science are different in terms of the resolution and its use. Data sufficient for control may not be sufficient for science and these differences need to be resolved. How this is resolved is dependent on the control agencies and the implementation, it is not in our hands but science needs to have some influence.

The draft implementation regulation (July 2015) appeared to be focusing on logbooks and the landing declaration for a trip. The solution offered appears to be to report the BMS landings in the declaration – at the trip level. This solution might be driven by the limits of the E-logbooks but this is of

considerable concern to the RCM. The concern from a scientific point of view is how to use this data if a vessel has used multiple gears, in multiple areas over multiple days.

The BMS fraction recorded for each record on the logbook would be more useful. There is a requirement to record discards at the logbook level – through exemptions and de-minimis there is an expectation that more discards will be recorded as a consequence. However, since 2011, under the control regulation, the requirement to record discards of >50kgs at the logbook level has been mandatory but analysis shows that this has not been enforced. STECF 13-23 "*anecdotal information suggests that the reliability of the data is questionable and the 50kg threshold is too high to capture information for many species. A limited analysis, comparing reported discard estimates with those obtained by scientific observers showed significant discrepancies between the two, with the reported catch being only 0.06% of the weight recorded by the scientific observer*".

The quality of these data might be improved if the limit of >50kgs was removed or reduced.

Denmark has required their fishermen to record catches at a haul level on the EU logbook since 2015. This provides better spatial data which would be improved if the BMS fraction was collected on the logbook. Although they appear to be recording very little in the way of discards they have adopted the haul by haul requirement. Haul by haul information can be used to link the logbook data with CCTV and VMS data giving higher resolution data. It would also improve the potential to 'control' the logbook data if the skippers are obliged to fill in the information by haul.

Landing declarations for most MS are supported by Sales note data – sales note data might be used as an alternative reference to landings and may have been used in the past to qualify or validate landing declarations by control agencies. RCMNA has little experience or influence on how Control agencies deal with differences but the fact that there is a potential under the landing obligation for some of the BMS landings to be sold then differences between the declaration and the sales note information should be expected. Experiences in the Baltic since the implementation of the Baltic Cod landing obligation suggest that Danish are only seeing the BMS landings that are sold on the sales notes. If MS are relying on Sales note data there will be a fraction that is not sold and a solution for recording this is needed.

The sales note issue raises a further concern in relation to under 10m vessels. Vessels under 10 meters are not presently required to fill in a logbook. Some MS control agencies are dependent on sales note data to record the activity of the under 10m fleet. Unless this issue is dealt with then this will further compromise the use of under 10m data. There is a need for more detailed information from the under 10 meter vessels. Some countries in the Baltic have developed a monthly fishing journal (simplified logbook), where this information could be captured.

As a consequence of the landing obligation MS have been reviewing and developing more selective gears to avoid discards and choke species. Gear design will change in different regions. Some selectivity devices are already being used i.e. square mesh panels, veils in the brown shrimp beam trawl fisheries and selectivity grids in Nephrops trawl fisheries. And it is not currently mandatory to

report this information in the logbook. Discard plans are redefining fleets based on mesh size and target species and how these fisheries adapt their gears to avoid catching unwanted fish might not be apparent in the details collected by the control agencies. It is important to collect these additional information to better define the activity in the fleets and perhaps to better explain the potential variation in catch composition within fleets. So at the very least it should be mandatory to report selectivity devices.

The landing obligation allows for ‘over quota’ catch to be offset against other catch quota species. It is important that if this is considered in any discard plans, any implementation does not allow this to be done at the catch reporting level. The catch records need to accurately reflect the species composition and quota trading should only occur ‘behind the scenes’. RCM NA can also foresee issues concerning species identification when implementing the regulation in mixed species fisheries. For example, discard plans may allow mixed landings of whiting and haddock BMS but it is still important the species are identified separately with their relative quantities on the logbooks landing declaration and sales notes.

In summary RCMNA recommends that MS and EU authorities where feasible, should improve control data capture methods to assure the quality of the data used for scientific advice. Authorities should consider:

1. BMS fraction in the logbooks not just on the landing declaration. Assure and maintain accurate species composition data.
2. Sales notes or equivalent to need to account for the non-sold BMS fraction.
3. Validation of the control data for the BMS fraction.
4. Assured solutions for the under 10 meter vessels presently only reporting catch on sale notes.
5. Haul by haul information recorded in the logbook
6. Gear selectivity measures to be recorded in the logbook

Implications of the landing obligation - Scientific and data storage, IT systems and estimation	
RCM NA 2015 Recommendation 7	**RCM NA** recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction (Landings BMS) and official discards. RCMs to review, monitor and advise on the impact of the implementation. Also, authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate Landings BMS and official discards. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications. RCMs to review the impact of the implementation on data collection and consider the use of the draft template or similar on an annual basis see (annex 8) RCMNA 2015. MS and EU authorities to, where feasible, improve control data capture methods to assure the quality of the data used for scientific advice. Authorities should consider: 1. BMS fraction in the logbooks not just on the landing declaration. Assure and maintain accurate species composition data. 2. Sales notes or equivalent to need to account for the non-sold BMS fraction. 3. Validation of the control data for the BMS fraction. 4. Assured solutions for the under 10 meter vessels presently only reporting catch on sale notes. 5. Haul by haul information recorded in the logbook 6. Gear selectivity measures to be recorded in the logbook
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation January 2016 for demersal stocks.

8.4 The generation of catch estimates derived from sampling programme data.

Discards, Landings and Landings (BMS) will be recorded officially and samplers need to be aware of and record what fraction they are sampling, whether at sea or ashore. If sampling a trip at sea or ashore it is critical each component is sampled. Within each of these fractions there could be sub categories (sold and unsold BMS for example) and the sampler needs to be aware and adapt to whatever presents itself. If they are aware of any fraction they did not have access to for any trip whether offshore or onshore, they will need to record it (this assume they will know). Refusal rates are often recorded for access to offshore trips. Refusal rates for trips onshore can also be recorded but may need to be recorded at the landing category level as well if access to the BMS fraction is limited.

Currently for some MS a sample of a vessel landing is considered invalid if not all size categories landed are available for sampling and these samples are excluded from any raising procedure. MS need to consider how valid the data is if the BMS fraction cannot always be sampled. If the BMS fraction is not sampled then that will need to be accounted for in any raising procedure which will also need to account for the potential that the BMS fraction may also be missed from some of the control data.

How the landed BMS is treated at sea or dealt with at the point of landing will affect how easily this component can be sampled with the rest of the catch. Even if you have access to all components and you can be sure the landings from that vessel are accurately reported, you cannot be certain how accurate the sum of these components for the stratum will be.

For some fisheries it may be impossible to sample the BMS fraction onshore with the rest of the catch - if the different components end up in different locations for example. It might be necessary to set up an independent sampling scheme to sample the BMS fraction for these fisheries. These data would then need to be raised independently of the other data before being combined with the raised estimates for the main landed component. WKPICS3 offers best practice for raising procedures in probability based sampling programmes however further practical advice might be required in how to deal with this issue – WGCATCH.

If the control data collected is accurate and complete, **and** all fractions, including discards, are clearly and accurately identified on logsheets and sales notes, **and** all fractions are available at sea to sample, **and** all landed fractions are available at the point of landing then raising procedures to catch estimates will only need to be concerned with adapting to changes in sampling design. However, this appears unlikely to happen in many cases and, without sufficient validation, the available control data should be treated with caution - not necessarily the weights recorded but what the figures represent. For example: Do the landings figures include BMS landings or not?

With a good probability based sampling design total catch estimates could be calculated independently of landed weights from the control agencies. The simulations currently being carried out in the FishPi project testing sampling design uses trip landed weights as a proxy for a sample and then raises these based on sampling probabilities rather than actual weights to total landings. These

are then compared against the official landings as a measure of how well the sampling design is performing.

If total catch at age is calculated, it will be with reference to final official landings and/or effort in that domain of interest (e.g. a fish stock defined by area). Good sampling design can produce total catch at age estimates for a species but needs reference to catch weights to qualify these data. If official landings are corrupted by confusion over whether the sampled fraction represents landings + BMS or just landings it severely undermines any catch estimate however it is calculated.

9. Future role of the RCGs and developments of the revised DCF

9.1 Areas and topics where there is a need for intra-institute intersessional work (ToR 3g)

In response to ToR 3g, the group discussed various needs and aspects relevant for facilitating future work of the RCM. Future tasks for the RCM don't differ much from the current tasks and revolve around 4 main topics as foreseen in the proposed DCF (background document to STECF EWG 14-02):

- Advising the Commission on changes required to the EU Multiannual Programme regarding core data to be collected (biological) and regarding all economic data to be collected (economic).
- Deciding on detailed aspects of the data to be collected (i.e. on those aspects that will no longer be specified in the EU MAP but left to RCGs/PGECON such as sampling strategies, precision levels);
- Planning and coordinating the sampling at regional level, allocating shares of sampling to MS following set rules (established in EU MAP) and coordinating preparation of National Programmes (only relevant for biological data & RCGs);

Contributing to the quality assessment of data at regional level (mainly relevant for biological data & RCGs).

The discussion focussed on the structure of the RCGs, funding and short term needs to address the 4 tasks in an efficient way in the future.

Structure of RCGs

One of the work packages of the current FishPi project (MARE2014/19) revolves around the organisation of the regional coordination in the future. This work package will produce a model for the organisation of the RCG's as well as an estimation of the costs and effort needed, based on the tasks and objectives of a regional workplan. This regional workplan aims at reducing the general overhead once the system has been established and focusses on the regional aspects while reducing the burden for individual MS.

In general, converting RCMs to RCGs has been subject of many discussions over the last years in various groups and the common idea is that the RCGs will work as a process rather than a meeting once a year, but meetings are considered essential for the success of the coordination process. One solution might be to have one annual meeting (or more when required) to address the four main topics listed above, including identifying, distributing and steering the work in support of the coordination tasks. Participation of end users in the RCG process is crucial for setting up regional data collection programs.

The work in support of the coordinating tasks can be done intersessionally throughout the year either in structured and formalised subgroups like the current Steering Committee for the Regional Databases or on a more temporal basis to address ad hoc issues. A data preparation group prior to the main meeting(s) is needed as well. This group meets to compile quality check and prepare the

data needed for analysis during the RCG, thus limiting the time needed at the RCG for manipulating the data. The annual meeting also details proposals for task sharing between MS to fulfil the commitments of a regional sampling plan. These proposals can then be discussed, refined and agreed upon during a dedicated meeting for the NCs. The timing of the NC meeting should take into account that only a few NCs will have the mandate to commit resources directly, while other NCs need to consult with their respective national administrations and institutes. The decisions should be taken by September 15 at the latest to allow MS to incorporate the agreements in their respective Workplans by the end of October.

The transition from RCM to RCG is expected to lead to additional meetings and an increase in intersessional work. Many tasks are common to all regions and might not require specific attention by a certain region. 5 RCMs are established for clearly defined regions: Baltic (BAL), North Sea & Eastern Arctic (NS&EA), North Atlantic (NA), Mediterranean and Large Pelagics (MED&BS-LP) and Long Distance Fisheries (LDF). The rationale between the area split is mainly based on regional differences concerning the countries involved in the fisheries, types of fisheries and the RFMO serving a certain region. As RCM NS&EA, RCM NA discussed the option of amalgamating RCM NA and NS&EA, given the similarity in fisheries, overlap in widely distributed species and participating MS, into one group as an option for reducing the workload beforehand. As in 2012, RCM NA sees benefits in amalgamating both groups, but on the other side, major concerns are raised regarding the manageability of such a group and whether the process itself would benefit from merging these two groups.

In the current migration process to the new DCF, RCM NA wishes to develop interregional subgroups to develop working procedures common to both RCMs, while remaining 2 separate identities.

RCM NA recommends to establish 4 task groups working intersessionally on supra regional subjects:

- Cost sharing of funding surveys
- Impact of landing obligation
- Reviewing the ICES list of data needs as input for designing regional sampling plans
- Review and follow-up on upload logs

This proposal shall be discussed at the Liaison Meeting. Upon approval, the chairs of RCM NA and NS&EA liaise to detail the tasks for these subgroups as well as the expected output and feedback.

Setup interregional taskgroups between RCM NA and NS&EA.	
RCM NA 2015 Recommendation 8	RCM NA recommends to establish 4 taskgroups working intersessionally on supra regional subjects: • Cost sharing of funding surveys • Impact of landing obligation • Reviewing the ICES list of data needs as input for designing regional sampling plans. • Review and follow up on upload logs
Justification	Setting up these task groups will establish common working procedures between both RCMs and prepare ground for future cooperation on a supra regional level as is needed to fulfil future coordination tasks in the broad sense.
Follow-up actions needed	LM for approval, RCM NA and RCM NS&EA to allocate tasks.
Responsible persons for follow-up actions	Chairs , RCM NA and RCM NS&EA
Time frame (Deadline)	December 1st, 2015.

9.2 Consider future funding mechanisms to continue strengthening regional cooperation (Tor 6)

Funding coordination

Regional coordination encompasses many different aspects, ranging from regional cooperation, sampling design, quality control procedures, data storage and analysis to the actual coordination, reporting and accountancy. As substantial effort and costs are involved to facilitate the process of regional coordination, access to budgets to cover the costs is a fundamental need for future work.

As part of the EMFF (Art 86 of Reg. 508/2014), direct funds are available for the coordination of data collection. As it stands at the moment, these funds are believed to be available only through dedicated studies in response to calls for proposals and the accompanying legal procedures and requirements. These studies are not suitable for funding the structural work carried out by the RCGs, as the administrative burden and uncertainty in budget allocations would hamper the continuity of the year-round work of the RCGs.

Unless opportunities for direct funding of the RCG work are found, the RCG work has to be funded by the MS involved through the respective national EMFF shares for coordination. Coordination costs then have to be identified in the National Workplans, but these costs shall be based on a multi-annual RCG workplan and required budget.

Funding regional database

The Commission indicated that a call for a 2nd study on data transmission and storage will be launched by the end of this year. Pending the outcomes of this study, no direct funds will be made available from the Commission for the development and maintenance of the Regional Databases and the

supporting tools. As development of the RDB is crucial for future work of the RCGs, funds are needed for the development. These funds can be made available from the national EMFF budget. Pending new funding mechanisms under direct management like inclusion of RDB governance, development and maintenance in the MoU between the Commission and ICES, RCM NA recommends that each MS contributes to the governance, development and maintenance by contribution 5kE yearly in 2016 and 2017. Based on the current list of priorities, mid-term goals for the RDB as well as urgent needs emerging from the 2015 and 2016 RCMs, the RDB-SC sets up an annual workplan in cooperation with ICES, constraint by the budget available.

MS contributions to RDB Fishframe	
RCM NA 2015 Recommendation 9	RCM NA recommends that each MS in the North Atlantic area contributes to the development and maintenance of the Regional Database and the supporting tools by contributing 5kE yearly in 2016 and 2017.
Justification	The Commission indicated that a call for a 2nd study on data transmission and storage will be launched by the end of this year. Pending the outcomes of this study, no direct funds will be made available from the Commission for the development and maintenance of the Regional Databases and the supporting tools. As development of the RDB is crucial for future work of the RCGs, funds are needed for the development. These funds can be made available from the national EMFF budget.
Follow-up actions needed	Approval by NCs, RDB-SC
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	1st of January 2016

9.3 National administrations (ToR 8)

9.3.1 Role of NC within the RCM /RCG context and national administrations

Role of the NC

Despite the specific request by DG MARE in December 2014 (Ares (2014) 4170225) on the NC engagement in the 2015 RCMs, only a few NCs participated in the RCM NA 2015. In some cases, the NCs were substituted. However, these substitutes often don't have the necessary mandate to act as NC. Lack of participation of the NCs at the meeting hindered progress towards agreement in a number of areas, including Regional Databases and the set-up of future working procedures on regional coordination and participation. The future role of the NCs in the RCG context was discussed under ToR3g (see section 9.1), indicating a formal role for the NCs in the RCG process to approve and agree on regional arrangements. However, the current recast of the DCF doesn't include the formal

involvement of the NCs in the coordination procedures and meetings. RCM NA highlights this as potentially problematic for the foreseen formal role of the NCs.

Data compliance versus data quality

National administrations raise concerns on the burden to respond to data transmission failures which are not related to compliance but to data quality issues raised by the end users. The RCM highlights the statements by STECF (EWG 15-10) that “Many issues highlighted as “data transmission failures” and requiring comment from the MSs were idealised scenarios \...\ from the assessment working groups, and not data transmission failures.” and “End-users should be aware that wish lists for data not covered by MSs’ data collection under DCF \…\ are not data transmission failures and that requirements of modification of the DCF should be discussed with the Commission and RCMs”.

It is recommended that in future, checks for data transmission failures are decoupled from general data quality issues raised by end users. There should be a close dialogue between end users and the RCM to establish whether the data collected under the DCF is fit for purpose and how the data collection can be improved when quality issues are raised. Separately, data transmission checks should focus on whether MS comply with the requirements of data provision in accordance to specific data calls and the requirements of the legislation.

Data compliance versus data quality	
RCM NA 2015 Recommendation 10	RCM NA recommends that checks for data transmission failures are decoupled from general data quality issues raised by end users. The dialogue between end users and the RCM/RCG needs to improve to establish a.) whether data collected under the DCF is fit for purpose and b.) how data collection can be improved when quality issues are raised. Separately, data transmission checks should focus on whether member states comply with the requirements of data provision according to specific data calls and DCF legislation. This doesn’t imply quality issues shouldn’t be reported by MS.
Justification	National administrations raised concerns on the burden to respond to data transmission failures which are not related to compliance but to data quality issues raised by the end users. The RCM NA highlights the statement by STECF (EWG 15-10) that many issues highlighted as data transmission failures were idealised scenarios from the assessment working groups, and not data transmission failures.
Follow-up actions needed	LM to approve recommendation and COM to follow-up.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Before review of MS data transmission failures 2015.

EMFF funding

As RCM NS&EA, RCM NA wishes to highlight the unknown financial impact of changes in the data collection requirements under the new DCF, particularly for MS already having insufficient resources to meet all their DCF obligations. Moreover, MS already settled financial commitments for the upcoming years, e.g. national surveys, hence the addition of requirements might worsen the financial situation even more.

9.3.2 Harmonisation of control agency data collection and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.

As the RCM NS&EA, the RCM NA doesn't consider sharing control data between MS as an issue for the RCM. Based on the Control Regulation (art. 14 & 62), MS will share logbook and sales notes from foreign vessels landing into their country. A potential problem is the timely delivery of this data to the MS. The data has to be ready for the planning of future sampling activities and processing of the samples taken from these vessels before planning commences or data has to be delivered to end users. However, this issue cannot be taken up by the RCM, as it is in the remit of the national control agencies.

Regarding transversal variables, to ensure that the data collection of transversal meets end user needs, it was highlighted that there is a need for greater coordination between the various agencies and institutions responsible for the collection of transversal data, Control Agencies, DCF and e.g. Eurostat. This coordination should focus on uniform and agreed maintenance of reference lists (ports, species etc.) and on the range of mandatory variables to be collected through logbooks and landing declarations. The exchange of the information needs to be streamlined as much as possible through common data exchange format to ensure timely and efficient data transmissions between various data collectors and users.

9.3.3 Harmonisation of catch data recording e.g. metiers.

Currently, the discrepancy between logbook information and DCF needs hamper reporting information at a metier level, mainly because logbooks don't contain all the information needed to report on a metier level. As mentioned under ToR 8b, improved coordination between various agencies should facilitate this in the future, as the solution mainly lies in adding variables to the logbook or in making variables mandatory in the logbook. The variables to be included are e.g. information on mesh size and selection devices. In addition, for small scales fisheries, registering data (landings/effort) at a high spatial resolution is impossible as most vessels don't carry a logbook. A more detailed review on harmonisation of catch data recording in different Member States can be found in the report Scientific, Technical and Economic Committee for Fisheries (STECF) – Evaluation of Fisheries Dependent Information (STECF-15-12), 2015.

9.3.4 The position of national administrations on populating the Regional Data Base according to the RCM data call with Landings and effort data and Sampling data.

As discussed at many occasions, having detailed data available in a Regional Database is a prerequisite for efficient Regional Coordination and participation. All MSs except one present in the RCM NA had uploaded the data into the RDB this year. This is a significant achievement and allows the RCM to carry out its tasks efficiently. All MS expressed the intention to continue their uploads into the RDB in the future to facilitate future coordination work and to reduce the workload caused by having several similar data calls a year. Populating the RDB should become a common habit by all MSs, with or without a formal data call. The ideal situation would be that the RDB is populated on a regular basis so that the end user can extract the data when needed without having to go through the administrative burden of a formal data call. This will reduce the workload for the MS involved drastically.

An RDB Policy Document detailing access procedures and possible use of the data available in the RDB has been circulated by ICES. This document received a positive review by EU Commission legal services. Finalisation of this document is currently pending, as the response from one MS is still missing.

9.3.5 Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.

Current task sharing and coordination procedures as well as future mechanisms are covered under the current MARE study 2014/19. The outcomes of this study will demonstrate future procedures based on case studies. As many RCM participants are participating in the study as well, it was not considered to be essential for this year's RCM NA to further discuss future task sharing mechanisms.

The RCM NA highlights potential issues for future task sharing such as cost sharing of joint surveys and implications for national budgets while budgets are tight already.

10. Cost sharing of joint surveys

From 2014 until 2020, EU co-funding of data collection is made available under the EMFF (article 77) under shared management. Therefore, the cost sharing model has to be changed, as it would be unbalanced if the “vessel MS” should include the total research vessel cost in their Operational Programme and in the National Work Plan.

RCM NS&EA and RCM NA 2014 discussed a cost model for the present joint MS financed surveys and for future joint surveys. In addition to this model, the RCM NA 2015 highlights that four categories of surveys should be considered in relation to task sharing and criteria for joint surveys:

1) International surveys, with costs already shared among MS states, e.g. international blue whiting survey: RCM NA recommends implementation of the cost sharing proposal as agreed in RCM 2014 according to the relative share of the EU TAC for member states that have a >5% share.

2) International surveys that are already funded by the DCF, but do not have cost sharing, e.g. International mackerel and horse mackerel egg surveys: RCM supports the recommendation by WGMEGS 2015 that all MSs that have quota should participate in the surveys. RCM NA therefore recommends that the same cost sharing will be applied to the surveys under the scope of WGMEGS.

3) Any new international surveys that will come under the EU MAP: the agreed cost sharing model should apply to any new international surveys that are included in the EU MAP.

4) Existing national surveys which are funded under the DCF and are internationally coordinated, e.g. western IBTS.

The RCM recommends to review the spatial and temporal coordination on regional scale with a view to optimise sampling effort and maximise cost effectiveness.

Review of surveys to be included in EU MAP	
RCM NA 2015 Recommendation 11	RCM NA recommends an STECF EWG meeting to review the list of surveys to be included under the new EU MAP. This should include a review of the spatial and temporal coordination on a regional scale with the aim to optimise sampling effort. It is proposed to use the same evaluation approach as SGRN 10-03, however different weighting of criteria could apply in order to address newly emerging needs for ecosystem monitoring.
Justification	The last survey review was carried in 2010 (SGRN 10-03). An update is required, to: a) identify any redundancies b) establish newly emerging data needs for fisheries advice c) improve harmonisation with monitoring needs under MSFD.
Follow-up actions needed	LM to approve recommendation and COM to follow-up.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Early in 2016, prior to finalising EU MAP.

In addition to the earlier mentioned criteria: Where surveys have significant vessel effects such as e.g. groundfish surveys, consideration needs to be given to continued use of the vessel that has carried out the survey in the past, in order not to break existing time series.

In some cases, the contribution of other MS to a survey is very much welcomed, e.g. to fulfil the wish to extend the survey area where current possibilities to extend the area or time-frame (e.g. current Blue Whiting Survey).

In general, the current DCF recast proposal refers to ‘exploitation of stocks’ rather than EU TAC or landings. Given the relative stability, EU TAC shares are the preferred basis for sharing costs. The exploitation of stocks shall be interpreted as EU-TAC share as a default. In specific cases, RCGs can in the future agree on different interpretation where needed and feasible. RCM NA recommends to rephrase ‘exploitation of stocks’ to’ EU TAC shares or exploitation of stocks’.

EU TAC SHARES IN THE LIGHT OF COST SHARING	
RCM NA 2015 Recommendation 12	The current DCF recast refers to 'exploitation of stocks' rather than EU TAC or landings. RCM NA recommends to change the reference from 'exploitation of stocks' to ' EU TAC shares or exploitation of stocks'
Justification	EU TAC shares form a relative stable basis for cost sharing. In specific cases, by approval of the RCM, other indicators might be considered appropriate for certain surveys. Specifying EU TAC shares circumvents problems with stocks having a large share by third countries, thus excluding EU MS from their obligation to participate in a survey.
Follow-up actions needed	COM to implement in recast DCF
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Prior to finalizing DCF recast

The Commission have advised that the financial contributions from Member States to international surveys needed to be assessed to ensure compliance with their own EMFF Management and Control System. The UK circulated a draft Memorandum of Understanding which sought to make clear what this might require in practice. It was considered that the suggested audit compliance requirements were impractical and would lead to an unacceptable delay in making payments. It is proposed that the appropriate contacts in the Managing Authorities should convene a meeting to conclude an approach that would be universally acceptable (and generic agreement text). Prior to this the Commission should be asked if their original advice should be revisited.

11. Any other business

11.1 New co-chairman and next meeting

RCM NA decided to run in 2014 to a co-chairs system taking into account that it is expected that in the near future intersessional activities will increase. After a two years term, Jose Rodriguez is resigning as chair of the RCM NA and Jon Elson was appointed as new co-chair and therefore will join Estanis Mugerza for 2016.

The 2016 meeting will be held at Lisbon, Portugal.

In order to facilitate the common memory of the group, the following table provides an overview of the venues and chairmanship of this RCM.

Year	Venue	Chairs
2015	Hamburg, Germany	Jose Rodriguez (Spain) and Estanis Mugerza (Spain)
2014	Horta, Portugal	Kelle Moreau (Belgium) and Jose Rodriguez (Spain)
2013	Sukarrieta, Spain	Kelle Moreau (Belgium)
2012	Galway, Ireland	Sieto Verver (The Netherlands)
2011	La Rochelle, France	Joel Vigneau (France) replacing Sieto Verver
2010	Ostend, Belgium	Joel Vigneau (France)
2009	Cadiz, Spain	Joel Vigneau (France)
2008	York, UK-England	Christian Dintheer (France)
2007	Brest, France	Joel Vigneau (France) replacing Christian Dintheer
2006	Lisbon, Portugal	Graca Pestana (Portugal)
2005	Gijon, Spain	Pilar Pereda (Spain)
2004	Galway, Ireland	Paul Conolly (Ireland)

12. Glossary

CFP	Common Fisheries Policy
CV	Coefficient of Variation
DCF	Data Collection Framework
DC-MAP	Multi Annual Programme for Data Collection
EC	European Commission
EMFF	European Maritime and Fisheries Fund
EU	European Union
EUROSTAT	Directorate-General of the EC which provides statistical information to the EU
EWG	STECF Expert Working Group
FishFrame	Regional Data Base Platform. Also used to refer to the standard data exchange format.
GFCM	General fisheries Commission for the Mediterranean
ICES	International Council for the Exploration of the Sea
InterCatch	ICES Database
LM	Liaison Meeting
MoU	Memorandum of Understanding
MS	Member State
MSFD	Marine Strategy framework Directive
NA	North Atlantic
NAFO	Northwest Atlantic Fisheries Organization
NP	National Programme (of activities carried out by MS under the DCF)
NS & EA	North Sea and East Arctic
PGMED	Mediterranean Planning Group for Methodological Development
PSU	primary sampling units
QA	Quality Assurance
QC	Quality Control
RCG	Regional Coordination Group
RCM	Regional Coordination Meeting
RDB	Regional Data Base (of the RCM)
RFMO	Regional Fisheries Management Organisation
SC-RDB	Steering Committee Regional Data Base
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
WGBIOP	Working group on Biological Parameters (ICES)
WGCATCH	Working group on commercial catches (ICES)
WGMEGS	Working Group on Mackerel and Horse Mackerel Egg Surveys
WKISCON2	Workshop on Implementation Studies on Concurrent Length Sampling
WKPICS	Workshop on practical implementation of statistical sound catch sampling programmes
WKRDB	Workshop Regional Data Base (FishFrame)
VMS	Vessel Monitoring System, satellite based system to locate vessels
WoRMS	World Register of Marine Species

13. References

Council Regulation (EC) 199/2008 of 25 February 2008 concerning the establishment of a Community Framework for the collection, management and use of data in fisheries sector for scientific advice regarding the Common Fisheries Policy

Commission Regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy

Commission Decision (EC) No 2010/93/EC of 2010 adopting a multi annual Community programme pursuant to Council Regulation (EC) No 199/2008 establishing a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

ICES. 2015. First Interim Report of the Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS), 20–24 April 2015, ICES Headquarters, Copenhagen. ICES CM 2015/SSGIEOM: 09. 66 pp.

Annex 1: Summary of recommendations

ICES planning of working groups	
RCM NA 2015 Recommendation 1	RCM NA recommends ICES to review the ability of MS to provide data for working groups occurring in the first two months of the year in terms of the impact on quality and completeness of the data supplied. RCM NA share the opinion that this possible impacts would be avoided by moving the groups to April or later. It is strongly recommended to allow MS to have enough time to prepare and review the data.
Justification	Laboratories have problems to provide complete quality assured data to working groups occurring during the first two months and the effect of this on the quality of the assessments needs to be evaluated. That has been specifically the case of WGDEEP in 2014 (25th February).
Follow-up actions needed	ICES to ensure yearly this recommendations is considered before establishing the annual calendar
Responsible persons for follow-up actions	ICES
Time frame (Deadline)	2016

Age determination in stocks were age is not used in assessments	
RCM NA 2015 Recommendation 2	RCM NA recommends a full evaluation of the state-of-the-art regarding relations between age reading of species and assessment. This evaluation could be done by WGBIOP in contact with stock coordinators. RCM NA received a specific request to consider the case of Lophius spp. RCM NA did not find arguments to avoid MS consider stopping or reducing the age reading of ilicium and otoliths of Lophius spp. Stopping the collection of ilicium and otoliths of Lophius spp. is not recommended. This recommendation should be valid until an agreed standardized age reading method is developed.
Justification	Many Member States undertake the task of determining the age of fish stocks e.g anglerfish (*Lophius* sp) for which the age determinations is not used in the assessment due to poor agreement between readers. In the present situation all MS make, in lack of guidance, their own judgement if age determination should be kept or not. There need to be some kind of guidance to MS on how to act in those situations and the responsible body to give this guidance need to be identified. The collection of material (e.g otoliths) should of course

	continue as long as it is a requirement in DCF. RCM NA received a petition to consider the case of *Lophius* spp. Strong discrepancies between ilicia and otolith reading are found. This made not possible to use the age estimates of both calcified structures together, ilicia and otoliths, for stock assessment purposes. There is a need for an agreement between WGBIOP and *Lophius* stock coordinators to agree in the usefulness of following collecting and reading these structures for assessment purposes.
Follow-up actions needed	LM members to discuss and reach an agreement. Agreement between WGBIOP and *Lophius* stock coordinators.
Responsible persons for follow-up actions	Liaison Meeting 2015 WGBIOP and *Lophius* stock coordinators
Time frame (Deadline)	2016 Next WGBIOP meeting (2016).

Descriptions of metiers	
RCM NA 2015 Recommendation 3	RCM NA recommends MS to provide a description of the métiers that are sampled in the RDB. RCM NA opinion is that this could be answered during next data call. At the same time it would be recommended to set up space in the RDB to keep these descriptions (link it in a repository with version control).
Justification	A short description of the metiers provides a useful method to understand the fishing units RCM NA works with. As long as the RDB is using these units, it should contain its description.
Follow-up actions needed	1. RCM NA MS to provide this template before RCM NA 2016. 2. RCMs chairs to include this request in next Data Call as an optional request recommended. 3. RDB Managers to set up a space in the RDB to maintain these descriptions
Responsible persons for follow-up actions	MS of the RCM NA, RCM chairs, RDB Manager
Time frame (Deadline)	2016 Data call

Improving species selection protocols	
RCM NA 2015 Recommendation 4	The RCM NA recommends simulation and practical implementation studies on onshore sampling methodologies with the objective of improving species selection protocols.
Justification	WKISCON2 reported that both MS (questionnaires sent by national correspondents) and ICES end-users see numerous uses and benefits on the data collection of more species that now allow improved analyses of the impacts of fisheries in the marine ecosystem. However, it is also clear that under the DCF not all countries have obtained data using the same sampling strategies and that sampling methodologies other than full-species concurrent sampling may be available that may also provide quality data on more species albeit with different levels of cost/efficiency, aggregation, precision and bias. Requirement to explore and analyse other sound statistical methods for species selection which are efficient in fulfilling end-users needs and consider logistic and operational problems that may arise with the implementation of concurrent sampling, particularly onshore.
Follow-up actions needed	This study could be achieved as one task of an extension of the current project FishPi, particularly taking the advantage of data made available for the project as well as expertise and project products. European Commission to provide continuing funding of project FishPi.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	April 2016

RCM NA: Upload logs	
RCM NA 2015 Recommendation 5	The RCM NA strongly recommends that: 1. those upload logs not depending on RCM decisions are to be taken into account by the SC-RDB and RDD support; 2.each MS appoints a person to work on intersessionally sub-group to deal with those upload logs pending from RCM

	decisions; 3. If relevant, MS to consider reload all their data and update the upload log on next RCM data call;
Justification	Though the database support has improved substantially, its development is a continuous process which has to be enhanced based on user's feedback. There are still inconsistencies and errors in the data on the RDB that have been caused by the IT system design itself, by non-restrictive reference lists or due to insufficient data checks by MS. Data gaps limit the potential for data analysis and delays RDB use on the regional coordination process. The data call for the RCM 2015 was forwarded together with an upload log from de RCM NA report to be completed so that users can assess the limitations of the data and therefore what interpretations or analysis can be done with it. The RDB will be developed to record the status of the data within it, but until this feature is available a standard log submitted at the time of each data call can provide RCGs and data users with a reference to what data is not on the system as well as what is. Given the amount of issues listed pending from RCM decisions and the workload behind its scrutiny, intersessional work is required. Once analyzed and an action is set, the upload issues are to be addressed to the SC-RDB. If there are actions not pending from The RCM decision, the upload issues must straight assigned to the relevant responsible.
Follow-up actions needed	4. Upload log to be addressed to SC-RDB; 5. Upload log issues pending from RCM decision to be analyzed intersessionally by persons appointed by MS; 6. RCM chairs to include an updated upload log in data call 2016 and, when relevant ask MS to consider reload their data.
Responsible persons for follow-up actions	
Time frame (Deadline)	Upload log 2015: before SC-RDB 2015 Upload log 2016: to include in data call 2016 Reloading of data and submitting of upload log to RCM chairs: by deadline specified in data call 2016

Landings Abroad	
RCM NA 2015 Recommendation 6	RCM NA recommends that present situation in the sampling and estimation of landings abroad is reviewed and that the ICES data centre ensures that the RDB can hold accurate data on the landings abroad fraction of the catch.
Justification	Landings abroad constitute a substantial fraction of the landed catch, a fraction which needs to be sampled adequately and for which estimates are required. The number of records within the RDB would suggest either that foreign landings cannot be uploaded and stored adequately, or that there is very little sampling of foreign vessels occurring.
Follow-up actions needed	ICES data centre to ensure that sampling data derived from landings abroad can be uploaded, and that this data can be stored correctly within the RDB. WGCATCH to review the present situation in the sampling of foreign vessels, and the methodology employed to estimate landings abroad. SC-RDB to analyse data policy implications.
Responsible persons for follow-up actions	ICES data centre, WGCATCH, SC-RDB
Time frame (Deadline)	To report back to the RCM in 2016

Implications of the landing obligation - Scientific and data storage, IT systems and estimation	
RCM NA 2015 Recommendation 7	**RCM NA** recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction (Landings BMS) and official discards. RCMs to review, monitor and advise on the impact of the implementation. Also, authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate Landings BMS and official discards. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications. RCMs to review the impact of the implementation on data collection and consider the use of the draft template or similar on an annual basis see (annex 8) RCMNA 2015. MS and EU authorities to, where feasible, improve control data capture methods to assure the quality of the data used for scientific advice. Authorities should consider: 1. BMS fraction in the logbooks not just on the landing declaration. Assure and maintain accurate species composition data. 2. Sales notes or equivalent to need to account for the non-sold BMS fraction. 3. Validation of the control data for the BMS fraction. 4. Assured solutions for the under 10 meter vessels presently only reporting catch on sale notes. 5. Haul by haul information recorded in the logbook 6. Gear selectivity measures to be recorded in the logbook
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation January 2016 for demersal stocks.

Setup interregional task groups between RCM NA and RCM NS&EA	
RCM NA 2015 Recommendation 8	RCM NA recommends to establish 4 task groups working intersessionally on supra regional subjects: • Cost sharing of funding surveys • Impact of landing obligation • Reviewing the ICES list of data needs as input for designing regional sampling plans. • Review and follow-up on upload logs
Justification	Setting up these task groups will establish common working procedures between both RCMs and prepare ground for future cooperation on a supra regional level as is needed to fulfil future coordination tasks in the broad sense.
Follow-up actions needed	LM for approval, RCM NA and RCM NS&EA to allocate tasks.
Responsible persons for follow-up actions	Chairs , RCM NA and RCM NS&EA
Time frame (Deadline)	December 1st, 2015.

MS contributions to RDB Fishframe	
RCM NA 2015 Recommendation 9	RCM NA recommends that each MS in the North Atlantic area contributes to the development and maintenance of the Regional Database and the supporting tools by contributing 5kE yearly in 2016 and 2017.
Justification	The Commission indicated that a call for a 2nd study on data transmission and storage will be launched by the end of this year. Pending the outcomes of this study, no direct funds will be made available from the Commission for the development and maintenance of the Regional Databases and the supporting tools. As development of the RDB is crucial for future work of the RCGs, funds are needed for the development. These funds can be made available from the national EMFF budget.
Follow-up actions needed	Approval by NCs, RDB-SC
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	1st of January 2016

Data compliance versus data quality	
RCM NA 2015 Recommendation 10	RCM NA recommends that checks for data transmission failures are decoupled from general data quality issues raised by end users. The dialogue between end users and the RCM/RCG needs to improve to establish: a) whether data collected under the DCF is fit for purpose. b) how data collection can be improved when quality issues are raised. Separately, data transmission checks should focus on whether member states comply with the requirements of data provision according to specific data calls and DCF legislation. This doesn't imply quality issues shouldn't be reported by MS.
Justification	National administrations raised concerns on the burden to respond to data transmission failures which are not related to compliance but to data quality issues raised by the end users. The RCM NA highlights the statement by STECF (EWG 15-10) that many issues highlighted as data transmission failures were idealised scenarios from the assessment working groups, and not data transmission failures.
Follow-up actions needed	LM to approve recommendation and COM to follow-up.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Before review of MS data transmission failures 2015.

Review of surveys to be included in EU MAP	
RCM NA 2015 Recommendation 11	RCM NA recommends an STECF EWG meeting to review the list of surveys to be included under the new EU MAP. This should include a review of the spatial and temporal coordination on a regional scale with the aim to optimise sampling effort. It is proposed to use the same evaluation approach as SGRN 10-03, however different weighting of criteria could apply in order to address newly emerging needs for ecosystem monitoring.
Justification	The last survey review was carried in 2010 (SGRN 10-03). An update is required, to: a) identify any redundancies b) establish newly emerging data needs for fisheries advice c) improve harmonisation with monitoring needs under MSFD.

Follow-up actions needed	LM to approve recommendation and COM to follow-up.
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Early in 2016, prior to finalising EU MAP.

EU TAC SHARES IN THE LIGHT OF COST SHARING	
RCM NA 2015 Recommendation 12	The current DCF recast refers to 'exploitation of stocks' rather than EU TAC or landings. RCM NA recommends to change the reference from 'exploitation of stocks' to ' EU TAC shares or exploitation of stocks'
Justification	EU TAC shares form a relative stable basis for cost sharing. In specific cases, by approval of the RCM, other indicators might be considered appropriate for certain surveys. Specifying EU TAC shares circumvents problems with stocks having a large share by third countries, thus excluding EU MS from their obligation to participate in a survey.
Follow-up actions needed	COM to implement in recast DCF
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	Prior to finalizing DCF recast

Annex 2: Agenda for the RCM NA 2015

EU Data Collection Framework (DCF),

REG. 199/2008, 665/2008 AND DECISION 2010/93/EC

Regional Co-ordination Meeting for the North Atlantic (RCM NA)
Hamburg, 14 – 18 September, 2015
Thünen Institute

Agenda

Working hours:	Mon	14:00-18:00
	Tue	09:00-18:00
	Wed	09:00-18:00
	Thu	09:00-18:00
	Fri	09:00-13:00
Coffee/tea breaks:	10:30 & 16:00	
Lunch break:	13:00 – 14:00	
Social event:	Wednesday evening	

General work:

- All presenters write a piece of text for the report.
- Presentations are asked to be short: the main objective is to present the subject to discuss in plenary and provide subgroups with material to work with.
- All subgroups need inputs and help from all participants. Keep in mind the other subgroups if your initial subgroup has finished or your inputs are no longer needed there.

Subgroups:

Subgroup A1	**Sampling data and Data quality** (ToRs 3b and 3f) Chairs: Mike and Lucia, Marina
Subgroup A2	**Sampling design and metiers** (ToRs 3a, 3c, 3e and 9). Chair: Alastair, Dalia
Subgroup A3	**Sampling protocols and sampling strategy** (ToR 3d and concurrent strategy) Chair: Manica, Ana, Maggie
Subgroup B	**Landing obligation** (ToR 7) Chair: Jon, Helen, Jens
Subgroup C	**EU MAP and National administrations** (ToR 8, 4 and 6) Chair: Sieto, Christian Leonie, Maria, Matt, Christoph

Monday, 14th September 2014

14:00-14:40 Opening of the meeting.

- ✓ Welcome and Logistics – House rules
- ✓ Introduction of participants
- ✓ ToRs and Meeting Agenda
- ✓ The Meeting Report – Structure
- ✓ Formation of subgroups: Chairs, Rapporteurs and Members.

14:40-16:00 Plenary session

Review progress since 2014 following up the 11th liaison meeting report (ToR 1). Evaluate the outcomes of the RCMs that took place in 2014, pending availability of outcomes, in terms of complementarities and actions to be carried out by MS in the RCM region of competence.

- Follow up of recommendations RCM and LM

16:30-18:00 Plenary session

Review feedback and recommendations from end users and expert groups (**ToR 2).**

- WGCATCH
- PGDATA
- WK on transversal variables
- NC meetings
- ICES recommendations
  - Overview of 2016 benchmarks / 2015 data compilation workshops: provide a list on the main issues for each stock
  - Get feedback from National Correspondents / data submitters on the 2015 data call for update assessments – discussion and input from RCM members
  - Feedback from ICES; ICES clarification on the data transmission 2014

Tuesday, 15th September 2014

09:00-10:30 Plenary session

Regional Data Base

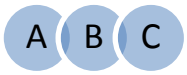
- Review the reports from RDB-Steering Committee meeting.
- Structure of the regional databases and identify needs of the RCMs that could be addressed by the RDB SC and suggest any new features/reports to be developed. Presentation of the WKRDB.
- Update on regional databases since RCMs 2014.
- Short analysis based on stored data (part of ToR 3f).
- Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls (ToR 3c)
- Analyse of the RCM data call for the RDB 2014 **(part of ToR 3f**)
- Upload logs revision for feedback to SC-RDB

11:00-11:45 Plenary session

Regional data collection and coordination

- Consider the progress of the "strengthening regional cooperation in data collection" mare/2014/19, and possible implications (**ToR 3a**)
- Discuss design-based sampling: state of play of which MS are using it or plan to use it (**ToR 3 e**)

11:00-11:45 Subgroup work



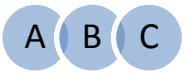
Lunch Break

14:00-14:30 Plenary session

Landing obligation (**ToR 7**)

- ✓ **Consider impact of the implementation of the landing obligation**

14:30-18:00 Subgroup work



Wednesday, 16th September 2014

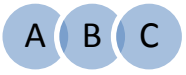
09:00-10:30 Plenary session

Regional data collection and coordination

- Concurrent sampling. Presentation WKISCON2.
- Concurrent sampling. RCM NA inputs.
- Consider the data collection protocols for at sea and on-shore sampling in the context of regional sampling designs and probability sampling methods (**ToR 3 d**)

  Inputs for the subgroup?

11:00-13:00 Subgroup work



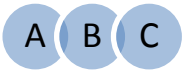
Lunch Break

14:00-17:00 Plenary session

EU MAP and National Administrations (ToR 8)

- Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.
- Harmonisation of control agency data collection and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.
- Harmonisation of catch data recording e.g. metiers.
- The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.
- Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.
- DCMAP. Discuss the potential impact of the current draft DCF and to share MS views on this
- Review proposal for task sharing **(ToR 4)**
- Consider the future funding mechanism to continue strengthening regional cooperation **(ToR 6)**

17:00-18:00 Subgroup work



Thursday, 17 th September 2014

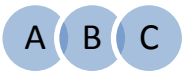
09:00-09:30 Opening and short presentation on the status of the preliminary work of the subgroups: problems, guidance from the plenary, etc.

09:30-10:30 Plenary session

Metiers.

- Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context. (ToR 9)
- Naming convections. Correct last year's version. Problems encountered and proposed mechanism to work in the future.

11:00-13:00 Sub-group work

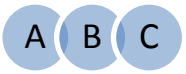


Lunch Break

14:00-14:45 Plenary session

Future multi-annual programme for data collection (ToR 10)

14:45-17:00 Sub-group work



17:00-18:00 Plenary session

Presentation and plenary discussion on the outcomes, recommendations and proposals from sub-groups in preparation of the final proposals.

Friday, 18 th September 2014

09:00-9:30 Presentation draft RCM NA recommendations, discussion and final adoption

09:30-10:30 Any amendments to NP (ToR 5)

11:00-12:45 Review of the first draft of the Meeting Report

12:45-13:00 Election of a new co-chair
Timing and venue of the next meeting

13:00 Closure of the meeting

Annex 3: EU MAP question to RCM NA

The Commission would like to receive recommendations with regard to the following questions (this is also linked to ToR7):

Under the Landing Obligation, discard data will become available for TAC species and species subject to minimum sizes (Annex III of the Mediterranean Regulation). Therefore, with the gradual phasing-in of the landing obligation, discard data may become less important. Assuming high levels of compliance with the landing obligation, the use of observers on board could then be replaced by harbour sampling for species subject to the landing obligation. Still, gaps in data may arise from the *de minimis* exemptions. So, there is a need to define fisheries, metiers and species falling under the *de minimis* exemption.

Questions to be addressed:

1. *Under the discard ban, will there be a need to collect discard data?*

Firstly, the landing obligation only applies to TAC species. Therefore, information on discards of non TAC species will not be available without running observer programmes and full concurrent discard data is required to answer the requirements of the DCF to provide data for ecosystem impact and MSFD assessments. Secondly, experiences in the Baltic region have shown that, since the landing obligation was implemented 1st January 2015 for cod, salmon and pelagic species, recorded catches of cod below the minimum reference size (BMS), which should be landed, are not reflected in the observed catches of BMS cod. If reliable estimates of catches are to be used when carrying out stock assessment the only solution is to continue the observer programmes, as recommended by the RCM NS&EA 2014 and endorsed by the LM 2014.

2. *Which are the fisheries, metiers and species falling under the de minimis exemption for which observers are still needed?*

The RCM NA are not in the position to comment on or answer this question. With the present setup for controlling the compliance of the landing obligation there will probably be no fisheries or species where observers programmes can be discontinued.

3. *Is this depending on the definition of de minimis exemption: per trip, per fishery, per area, per Member State?*

The definition of de minimis exemption: per trip, per fishery, per area, per Member State has no impact on whether observer programmes should be continued or discontinued. As explained above, with the

present setup for controlling the compliance of the landing obligation, observers programmes need to be continued in order to get reliable catch estimates to be used for assessing stock status and providing advice for the management of the stocks, ecosystem impact and MSFD indicators.

4. *Is on-board sampling necessary/useful/feasible for TAC species or species subject to minimum sizes (Annex III of the Mediterranean Regulation) and if not, when should it be abandoned/replaced by other type of sampling?*

As mentioned above the observer programme will be needed as not all species will be subject to landing obligation and present setup for controlling the compliance of the landing obligation currently appears to be inadequate for ensuring reliable catch estimates.

5. *Is the data on discards recorded under the Control Regulation biased?*

According to the Control Regulation since 2011 it has been mandatory for fishing masters to report all discard more than 50 kg per species per trip in the logbook. Analyses of records of discards in several MS logbook have shown that discard reporting is biased. These issues are valid for all MS fishing in the North Atlantic, North Sea, the Skagerrak, the Kattegat and the eastern Arctic area. This provides clear evidence that discard records are biased. Information for 2015 from the Baltic region indicates that this is still an issue even though the landing obligation has been implemented for that region.

6. *Can this bias be quantified by observer trips?*

The DCF observer programme is based on a statistical sound sampling approach where the aim is to quantify the total outtake of a stock in volume and finally in catch at age. The sampling scheme is not designed quantify bias of the catches by species recorded in the logbooks. Such a quantification needs a complete different sampling programme.

7. *If under the landing obligation if observers would no longer be on board, can all other data still be reliably collected: non quota species, concurrent sampling, incidental bycatch, do we not miss essential points that are perhaps not specified such as the behaviour of fishermen, do we not get out of touch with the sector?*

Without observers onboard it will not be possible to collect information on the diverse nature of non-quota species if they are discarded at sea. Incidental bycatches of marine mammals and seabirds can be estimated by the use of cameras. Assessing changes on behaviour of fishermen requires multiple analysis and information from multiple sources such as detailed information on each fishing event, catch composition – all species, landing pattern by species and detailed information of gear used.

Design-based sampling: the issue of over sampling and under sampling should be addressed and how it could be overcome? Is it possible to make a comparison of the results of both methods and the problems encountered and make an analysis of the pros and cons of design based sampling and metier based sampling? (ToR3e)

RCM NA would like to clarify that design based sampling is not an specific and determined way of sampling but an movement to include more statistical considerations into the sampling designs of fisheries. Mainly, this approach highlights the importance in the selection of trips of having the sampling probabilities a priori for each sampling event.

It has been proved during last years that the metier based sampling, which was a quite well defined sampling methodology, could in some cases avoid to have the sampling probabilities a priori (fundamentally because some sampling frames overlaps as the metier can only be established a posterior for some fishing activities).

For that reason MS are moving to a new sampling scenario where sampling probabilities can be established. Taking advantage of this, more statistical improvements are being considered for the benefit of the regional cooperation.

Nevertheless fleet-based sampling (not metier-based) is still a recommended way of sampling. Always ensuring sampling probabilities can be obtained. This can be done by using “fleets” units bigger that the metiers than can avoid the metier problem to be used as stratum. Other improvements, as the reduction of stratums, etc, are also being considered by MS as it has been shown that this can lead to major bias. So, for the benefit of a correct common understanding, we recommend to avoid the general use of “design based sampling” as a predefined method for sampling. In most part of cases that refers in fact to fleet based sampling where statistical improvements have been made, something we could name as “fleet-based statistical sampling”. To achieve statistically sound sampling of commercial catches various statistical approaches for the selection of trips may be valid, fleet-based sampling being one among them.

Data quality: proposed indicators as an alternative to CVs? (ToR3b)

RCM NA advises that a clear distinction should be made between quality indicators related to (i) design of sampling programmes; ii) sampling achievements; iii) quality control procedures to detect errors in data that have been collected; and iv) quality of estimates derived from the samples in terms of precision and bias.

The Coefficients of Variation (CV, or relative standard error of an estimate) is a direct statistical measure of the precision of an estimate derived from data. It is a function of the number of independent samples, which is a controlled aspect of sampling design, and the between-sample variation in the variable being measured (such as discards per fishing trip), which cannot be controlled

by the sampling design. CVs are not appropriate for monitoring data quality in terms of sampling achievement in relation to planned sampling. The same number of samples each year can provide estimates of widely differing CV because of changes in between-sample variability beyond the control of the sampling programme.

Useful measures of sampling achievement in relation to planned sampling activities include numbers of primary sampling units (PSUs) sampled (e.g. a commercial fishing trips with an observer, or number of market sampling trips), overall and by country or sampling stratum. Unlike CVs, this is a controlled aspect of sampling design. The number of secondary or lower level sampling units (e.g. numbers of fish measured or aged from all the PSUs) may provide additional useful additional information in combination with numbers of PSUs sampled. However, on its own it may often be inappropriate as a sampling target and as a measure of sampling achievement. This is because most fishery sampling involves cluster sampling where many fish are collected from each PSU, and there is typically less variation in fish size or age within each PSU than between the PSUs sampled. It is also a less controllable aspect of sampling design than a PSU, for example because of changes in fish abundance and availability for sampling.

The Commission would like to have comments on the proposed stock list for EU MAP (ToR 10)

Not addressed during the RCM NA due to lack of time.

End-user feedback. Would it be possible to quantify the seriousness of data gaps? Is it possible to develop a template for end user feedback? (ToR 2)

Not addressed during the RCM NA due to lack of time.

Annex 4: Tables sampling design

on shore					
Country	**Frame**	**1st SU**	**Stratification of 1st SU**	**Selection of 1st SU**	**Conducts concurrent sampling**
Basque - Spain (planned)	Trawlers	day	Month	Quasi randon - coordinated among fleets	Yes
Basque - Spain (planned)	Purse seine/artisan fisheries	day	Month	Quasi randon - coordinated among fleets	Yes
Belgium	NA (does not perform onshore sampling)				No
Denmark	Demersal	Site	Each sales place, Quarter	Systematic in time	Yes
France	Group of ports	Landing event	Quarter and Fishery (group of métiers) and large fishing grounds	Opportunistic	Yes
Germany	Group of ports	Ports	2 frames	Systematic by amount of landings	No
Ireland	Group of ports	Sites * time	Fleet, area, quarter	Quasi random, proportional	Yes
Netherlands	Demersal - Group of ports	Sites * time	quarter and port	Systematic in time	No
Netherlands	Pelagic - Group of ports	vessel	quarter and port	Systematic in time	No
Lithuania	Demersal and Pelagic	NA (does not perform onshore sampling in distant waters)			NA
Poland	Demersal and Pelagic	Vessels	a trip of the operating vessels on a specified métier/quarter	Accordingly to the intensity of the national fishing-quota utilization in given year .	Unknown
Portugal	Ports	Auction*Day	Quarter, port	Quasi Systematic	Yes
Sweden	Matrix of port cluster vs days	Port cluster x day	Quarter, Area	Random, unequal probability	No

UK England	Demersal	Sites * day	Area, Port size, Quarter	Day is random within biweek period	Yes
	Crustacean	Sites * day	Area, Port size, Quarter	Day is random within biweek period	
UK (Northern Ireland)	Group of ports	Vessel landing	Geographic area, quater, gear type	Guided by stock-based and concurrent sampling targets.	Unknown
UK (Scotland)	List of markets	Day	Market	Systematic over time	No
Spain (IEO)	Ports	Day	Quarter	Varies between ports and fleets: quasi random, systematic and opportunistic	Yes
Latvia	unknown if sampling takes place onshore				Unknown
Estonia	unknown if sampling takes place onshore				Yes but unclear if onshore, offshore or both

at sea					
Country	**Frame**	**1st SU**	**Stratification of 1st SU**	**Selection of 1st SU**	**Conducts concurrent sampling**
Basque - Spain (planned)	Trawlers	vessel	month	random selection (based on a list of randomized vessels)	Yes
Basque - Spain (planned)	NA	NA	NA	NA	NA
Belgium	vessels >18m using towed demersal beam trawls	vessel	quarter and area	Non-random selection of vessels on opportunistic basis to meet sampling quotas by stratum	No
Denmark	All vessels >9.5 meter predominantly fishing with towed gear excluding vessels predominantly targeting small pelagic and sandeel and those using passive gears	vessel	Area * gear	Stratified random selection of vessels	Yes
France	Vessel list by metier	Vessel	area*metier*quarter	opportunistic with easons for refusal registered	Yes
Germany	Vessel lists (separate lists for Baltic demersal, Baltic sprat and all other area)	Vessels	Baltic demersal/sprat :2 strata based on contribution to cod/sprat landings 2 years previously. Other areas: stratified by fishing ground, tartget sp/gear, quarter or season	Baltic demersal fisheries: random selection. Other areas: non random selection to meet sampling quota by stratum	Yes
Ireland	Vessel list	Vessels	area, quarter, metier	non random selection	Yes
Netherlands	Vessel list	Vessels	fleet and quarter	quasi Random	No
Netherlands	Vessel list	Vessels	quarter	non random	No
Lithuania	Vessel list	Vessels * time	Region, métier, quarter or season	Accordingly to the intensity of the national fishing-quota utilization in given year	Unknown
Poland	no information available	no information available	no information available	no information available	Unknown
Portugal	vessels using OTB gears	Vessels	quarter, area, gear	quasi random	Yes

Sweden	vessel list	Vessel	Baltic - Quarter and area. IIIaN - quarter and gear	Random	Yes
UK England	List of vessels	vessels	vessel size, gear gp, quarter	random	Yes
UK (Northern Ireland)	Vessel Lists	Vessel	not available	Random	Unknown
UK (Scotland)	Vessel Lists	Vessel	Home port, area and vessel type	Random list	Yes
Spain (IEO)	Vessel list	Vessel	Metier, quarter	Stratified random vessel selection	Yes
Latvia	Vessel list	Vessel	quarter * area * gear	random	Yes
Estonia	Vessel list	Vessel	time * area * gear	random or opportunistic	Yes but unclear if onshore, offshore or both

Annex 5: Concurrent sampling: a view from the experience of the IEO sampling programme

Concurrent sampling: a view from the experience of the Spanish sampling programme

Jose Rodríguez and Jose Castro[1]
Instituto Español de Oceanografía (IEO): jose.rodriguez@st.ieo.es

JUSTIFICATION

IEO has been asked by RCM NA to provide an evaluation of the concurrent sampling carried out from 2009 following EU Data Collection Framework. Given that IEO has always applied the concurrent sampling on board (as part of the Discards Sampling Programme), the present document refers exclusively to the on-shore sampling. It has to be noted that some of these considerations were already presented to the Workshop on Implementation Studies on Concurrent Length Sampling (WKISCON2) as requested by ICES. So some figures are taken from the work developed there, based on the 2008-2014 data series provided by IEO. Considerations on quality issues (not addressed by WKISCON2) are presented as part of a case study focused on the Northern Spanish coastal small-scale gillnets fleet.

LENGTH DATA FOR MORE SPECIES

The number of species has increased significantly since the implementation of concurrent sampling in the Spanish on-shore sampling program (Figure 1). This is allowing IEO to provide biometric data to a larger number of ICES assessment working groups. In addition to the traditional target species of the Spanish fleet, assessed by WGBIE (formerly WGHMM), WGCSE, WGHANSA and WGWIDE, IEO has extended the provision of length data to other WGs as WGDEEP, WGNEW, WGCEPH or WGEF.

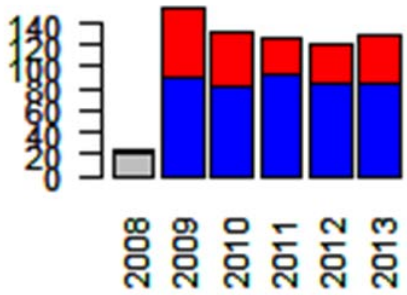


Figure 1. Number of species sampled onshore. Red bars indicate the proportion of rare species – arbitrary criteria of no more than 500 individuals measured or occurrence in less than 6 trips— (from WKISCON2 analysis)

IMPROVEMENTS IN THE COLLECTION OF LANDING DATA

These improvements can be divided into two points:

---

[1] On behalf of the IEO sampling team responsible for the Spanish fisheries in European Atlantic waters: J. Acosta, H. Araujo, M. Ámez, J.L. Cebrián, A. Juárez, R. Morlán, I. Salinas and E. Velasco.

- Taxonomic identification of landings.
The IEO sampling program started to focus on more speciessince the concurrent sampling was implemented. As a result, it was proved some species were not properly identified by fishermen/auctions, affecting the quality of fishery statistics. These problems are generally due to difficulties in the taxonomic identification, the low catches or similar sale prices. In some cases, IEO sampling team works with the local auction staff in order to improve the taxonomic identification level. Some common examples of these species are Diplodus spp. (*D. cervinus, D. puntazzo, D. sargus, D. vulgaris*), Scorpaena spp. (*S. scrofa, S. porcus, S. Notata*), Trisopterus (*T. luscus, T. minutus*), Beryx spp. (*B. decadactylus, B. splendens*), Trachurus spp. (*T. mediterraneus, T. picturatus, T. trachurus*), Triglidae (*Aspitrigla cuculus, Chelidonichthys lucerna, Chelidonichthys obscurus, Eutrigla gurnardus, Trygla lyra*), distinctions between *Todaropsis eblanae* and *Illex coindetti* or the register of species usually low reported as *Eledone cirrosa*.

- Quality of catch composition.
Concurrent sampling provides samplers the opportunity to work closer to the catches of all species and obliges them to spend more time with boxes in the auction. Both things allow a better evaluation of the landings, meaning an increase in the quality of the catch composition registered by the samplers.

Improvements in the collection of landing data (taxonomic identification of landings and quality of catch composition) increase IEO capability to supply commercial catch data. For 2015 ICES working groups IEO provided information on these species: *Aphanopus carbo, Argentina silus, Beryx spp, Brosme brosme, Centrophorus squamosus, Centroscymnus coelolepis, Coryphaenoides rupestris, Dicentrarchus labrax, Eledone cirrhosa, Eledone moschata, Eledone spp, Engraulis encrasicolus, Eutrigla gurnardus, Galeorhinus galeus, Hoplostethus atlanticus, Illex coindetii, Illex spp, Lepidorhombus boscii, Lepidorhombus spp, Lepidorhombus whiffiagonis, Loligo forbesi, Loligo spp, Loligo vulgaris, Lophius budegassa, Lophius piscatorius, Lophius spp, Macrourus berglax, Melanogrammus aeglefinus, Merlangius merlangus, Merluccius merluccius, Molva dypterygia, Molva molva, Mustelus asterias, Nephrops norvegicus, Octopus vulgaris, Ommastrephidae, Pagellus bogaraveo, Phycis blennoides, Pleuronectes platessa, Pollachius pollachius, Raja batis, Raja brachyura, Raja circularis, Raja clavata, Raja fullonica, Raja montagui, Raja naevus, Raja undulata, Sardina pilchardus, Scyliorhinus canicula, Sepia elegans, Sepia officinalis, Sepia orbignyana, Sepia spp, Solea solea, Todarodes sagittatus, Todaropsis eblanae, Todaropsis spp, Trachurus spp* and *Trachurus trachurus*.

QUALITATIVE ANALYSIS

1. TRIPS SAMPLED

Results of the analysis done comparing data from 2008 to 2014 (Figure 2) show a decrease (around 25%) of the total number of trips sampled onshore by IEO. That could be a relevant issue as the number of trips (primary sampling unit) sampled are seen as one of the recommended quality indicators by experts groups and workshops dealing with quality indicators (as WKPICS series).

Nevertheless, the IEO reduction of trips sampled onshore from 2008 is related to an overall redesign of the market sampling that took place between 2009-2010. This was due primarily to: a) evidences showing some fisheries (mostly purse seiners) were oversampled; b) in 2009 the sampling of the bottom trawlers in the south area of Division IXa changed from market sampling to on-board sampling. Thus, this reduction cannot be attributed to an unwanted effect of the adoption of concurrent sampling. Current number (more or less stable during last years) has proven to be better adjusted to end-users needs, mainly ICES requirements, without major problems reported.

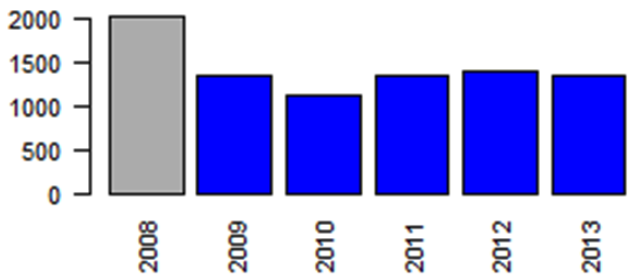


Figure 2. Number of trips sampled onshore (from WKISCON2 analysis)

2. ESTIMATION OF PRECISION

The precision indices (CV) in the Spanish sampled data have proved the difficulties to reach the DCF precision levels in length data for most of species before and after the implementation of concurrent sampling. Discussions in previous years (PGCCDBS, RCMs, WKPICS series) show a general objection to make it mandatory to achieve those targets. Nevertheless, the use of CVs as indicators of precision are still recommended by EG's to allow the data quality assessments prior to be used, e.g. in ICES assessments working groups.

Results of an analysis of CVs in the northern Spanish coastal small scale gillnet fleet has shown a slightly improvement in the precision achieved for hake between 2008 and 2014. Other species with significant biometric data in this fishery (as striped red mullet, Atlantic horse mackerel, Atlantic mackerel, axillary seabrem or pouting) cannot be compared because hake was the only species sampled before concurrent implementation. However, these species present similar or better CVs than the CV observed in the hake data. Analysis of the delta values with the COST tool (Figure 3) show also a quality improvement in the concurrent scenario compared to 2008. These analyses have to be further developed for more cases studies.

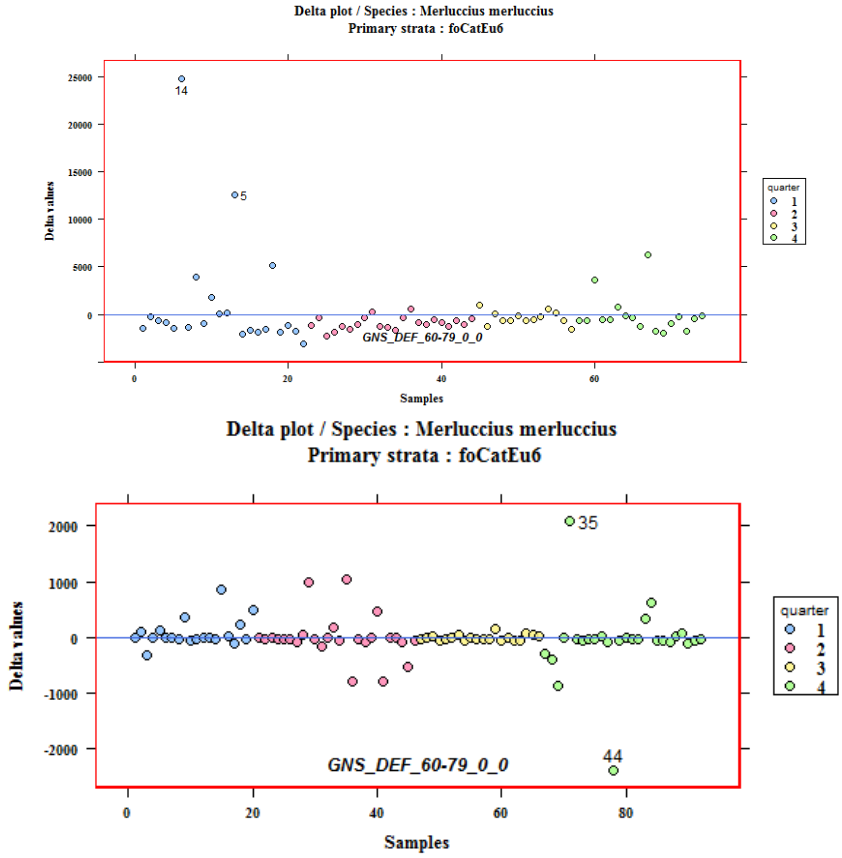


Figure 3. Delta plot (COST package) for hake length data in 2008 (above) and 2014 (below) for small scale gillnets in the Northern Spanish coast. Note different axis scale.

IMPLEMENTATION DIFFICULTIES

IEO adopted the concurrent sampling following EU Data Collection Framework that made it mandatory in 2009. IEO has experienced different problems concerning the implementation of this sampling strategy:

- Number of samplers for bottom otter trawlers and bottom pair trawlers.
The previous Spanish sampling protocol considered one sampler by sampling operation. Since the concurrent sampling implementation, it was necessary to organize sampling teams of two or three people

to cover mixed-species trawl metiers (bottom otter trawlers and bottom pair trawlers) due to the amount of species and the short time available.

- Increase of sampling time.
The increase of species entails an increase of the sampling time depending on the fishing activity. While concurrent sampling of purse seines or fishing pots does not show significant differences compare to the old stock-based approach, the sampling time increase in other métiers as trawlers and gillnetters.
Landing, auctioning and removal of fish can be performed very quickly, so the implementation of concurrent sampling obliged to adapt the sampling methodology, mainly the use of digital voice recorders.

- Physical access to some species.
Before the implementation of concurrent strategy, sampling at the market already entailed some difficulties related with the access to the fish. These problems increased with concurrent sampling. Problems specially arose concerning some species of greater commercial value. These species are perfectly laid out on trays and even covered with plastic sheets. The aim is to make catches' presentation more attractive to improve their economic value. Sampling these species once they have been arranged is seen as an interference in fishermen's/auction's work. This problem persists in some cases although fishermen are getting used to the sampling.

- Storage and management of the fisheries data base.
The original data base had been designed for a number of target species. The shift to concurrent sampling demanded the adaptation of the data base to receive and manage new information (masters data register, updates, etc).

- Data entry.
Time employed to upload sampling data into the data bases increased considerably as well as the time needed to check the sampling data.

COMPARISON VERSUS A LIST OF STOCKS OF INTEREST

Important characteristic of concurrent sampling is the homogeneity in the data collection through all fishing activities and species, thus allowing current and future undetermined uses of the information apart from those highlighted. These benefits could not be completely obtained from alternative proposed systems as the use of a broader list of stocks of interest to replace the old stock-based approach. Main reasons are:

- Difficulty to define a group of current species of interest. Presently all end-users can beneficiate from concurrent data while defining a group of species could only be done through "current" and "identified" end-users.
- Difficulty to anticipate the evolution of that group of species: entrances and exits from the selected group of species can only be done *a posteriori* (one or several years later)
- Difficulties to obtain a consistent historic data series. Once the need is detected, the sampling programme has to be updated to compile the information, meaning both some time period is needed to start the sampling (thus not registering the information) and previous time series is not available.

This doesn't avoid that concurrent sampling faces some difficulties which make necessary work on future improvements. Prioritization of species by fishing activity (prioritize the most abundant species in each activity) could ensure the collection of statistically robust information for key species –as required for assessment– without compromising other benefits and uses of concurrent data.

FINAL CONSIDERATIONS

From the scientific point of view, concurrent sampling has facilitated the leap from the single-stock approach towards a more species-global and ecosystem approach, while it provides an important source of information to manage poor-data stocks.

An important criticism has been the lack of coordination of its implementation between countries. This can be amended betting on a real regionalization of the European sampling programs. The regional standardization of a list of secondary species (to prioritize species, not to restrict them) would allow saving the economic cost done in last years.
Besides not affecting the quality of the information collected, the concurrent sampling approach allows extending the provision of scientific fishery data to ICES for more stocks, thus making this approach a reasonable strategy of sampling at present as part of statistically sound sampling schemes being developed.

Annex 6: Case study, Analysis of the Iberian 2014 data

Case study: Analysis of the Iberian 2014 data by harbour and fleet

Here we look further into the data from specific fishing grounds, considering aspects of the data that were unavailable in 2013, specifically the distribution of landings by harbor, and fleet segment. Harbor and fleet segment represent a convenient proxy for the sampling frames that would operate in a probability based sampling design. Fleets can be considered as possible stratified groupings of vessels, but obviously these are purely hypothetical situations.

The sampling data (csData format) has a number of relevant fields that can be related to the landings data (clData format). The harbor field in the cl table and the csData should follow the same UNLOCODE code list, hence the location for landings and samples collected at a location should be consistent. The species list for the cl data and the cs data draw on the same codes, though there are some differences in taxonomic resolution.

The csData Tr records should represent a single fishing trip, if their interpretation by sampling institution follows the recommendation in the format. While the fishing trip is not the primary sampling unit, it is the secondary sampling unit for both at-sea sampling and on-shore sampling. Thus it is a reasonable proxy for recording an indication of sampling levels.

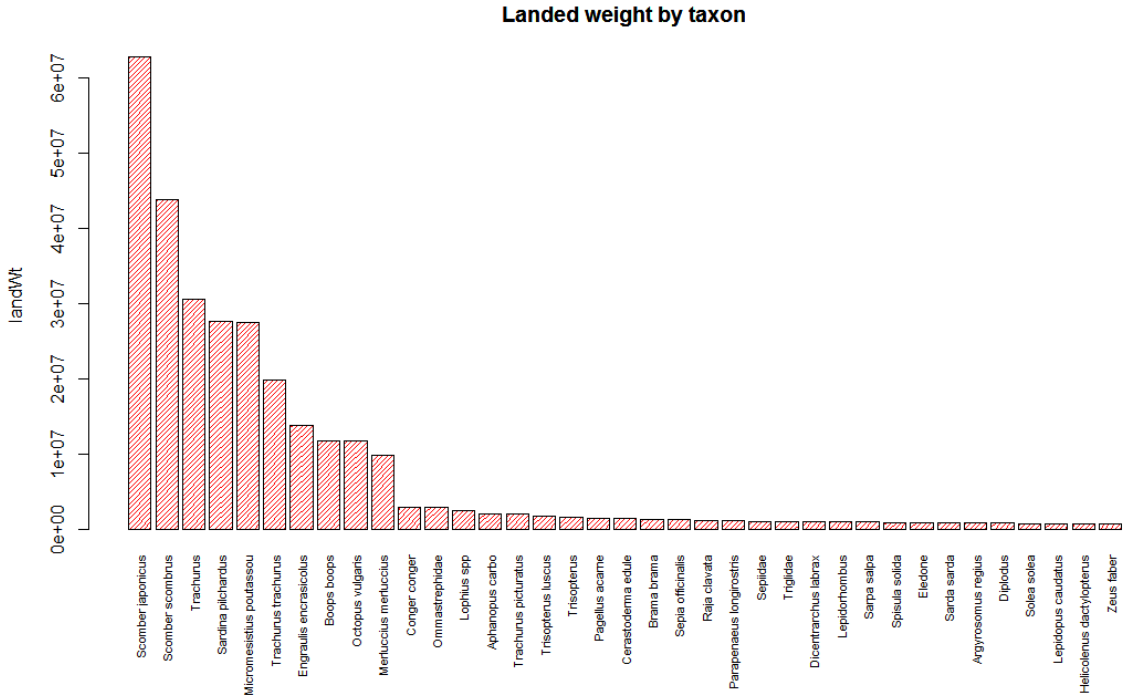


Fig. 1. Distribution of landed weight by taxon for the top 95% of the total landed weight from the Iberian fishing area.

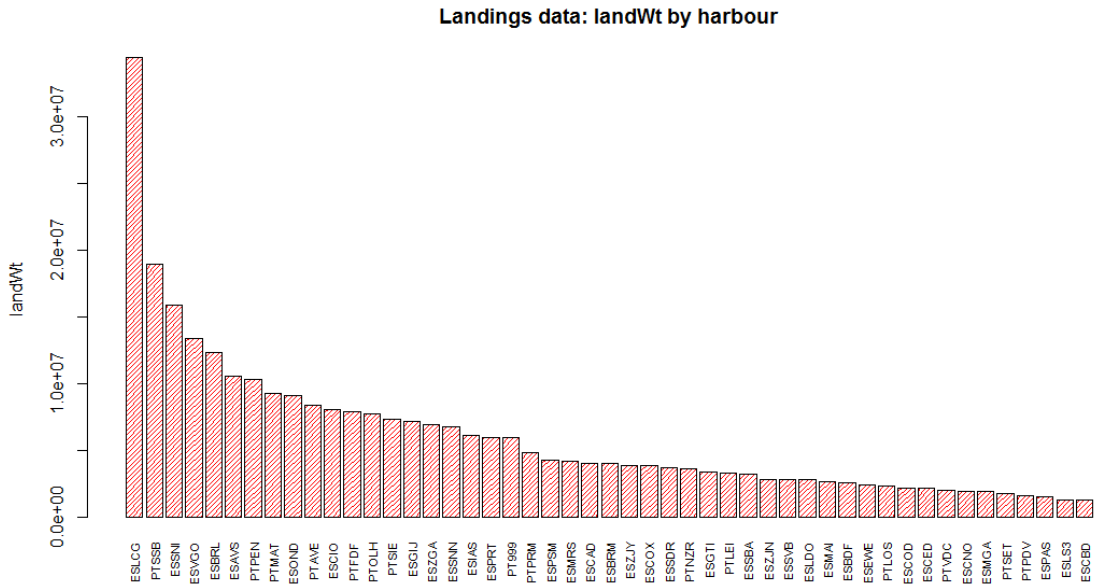


Fig. 2. Landing harbours that account for 95% of the landed weight of Iberian fisheries.

The distribution of landed weight by taxon is shown in Fig. 1, chub mackerel, mackerel, sardine, blue whiting and horse mackerel, European anchovy, Bogue, Common octopus and hake are the main species by landed weight. These species account for 87% of the total landed weight into the Iberian fishing ground. Sampling frames for on-shore sampling using a regional design will be based on sites and days, therefore the landing location is a pertinent variable. The 39 species that make up 95% of the landed weight are landed into 49 ports, shown in table 1, the distribution of which is shown in Fig. 2. Included in this table are the landings by different vessel flag countries and the number of TR records originating from these locations. These TR records indicate only that sampling occurs at the location. The sampling stratification used and the effort allocated to different strata means that he number of TR records need be in no way proportional to the landings hence care needs to be taken in the interpretation of this table. The geographic locations of the major landing harbors are shown in Fig. 3.

There are a number of notable features of this table. Firstly that the Spanish ports receive landings from Spanish and Portuguese vessels, Portuguese ports appear not to receive the landings from other flag country vessels. This may be a feature for the data available, or may reflect the actual situation within these ports. However there is no known reason to suggest Portuguese ports cannot receive vessels from other flag countries.

The second notable feature is the extent to which these major ports are covered by the existing sampling; 37 of the top 49 ports are sampled, leaving only 12 for the top ports receive no sampling, of which one is a catch all PT999 code for Portugal unknown. From information available at the RCM NA

it is known that these ports are not sampled for logistical reasons, not due to incomplete data provision.

The fleet segments landing the top 95% of species by landed weight are shown in Fig. 4 and table 2. The Spanish 24-40m vessels are the most prolific, the 10-12m and under 10m vessels of Spain and Portugal have the lowest recorded landings. All segments of the Spanish and Portuguese fleets however land more than the vessels of the French fleet active in the area.

Table 1. The top 49 landing ports in the Iberian fishing area.

Location Code	Country	Harbour name	ESP	PRT	FRA	DEU	Trips Sampled
ESLCG	ESP	La Coruña	32928	1480	NA	3	112
PTSSB	PRT	Sesimbra	NA	18998	NA	NA	292
ESSNI	ESP	Santa Eugenia de Riveira	15835	NA	NA	NA	123
ESVGO	ESP	Vigo	12391	1356	0	NA	127
ESBRL	ESP	Burela	11898	452	NA	NA	102
PTPEN	PRT	Peniche	NA	10835	NA	NA	288
ESAVS	ESP	Aviles	6955	3606	16	NA	99
PTMAT	PRT	Matosinhos	NA	9276	NA	NA	284
ESOND	ESP	Ondarroa	8771	234	68	NA	118
PTAVE	PRT	Aveiro	NA	8407	NA	NA	280
ESCIO	ESP	Cillero	7983	86	NA	NA	107
PTFDF	PRT	Figueira da Foz	NA	7884	NA	NA	282
PTOLH	PRT	Olhão	NA	7713	NA	NA	286
PTSIE	PRT	Sines	NA	7283	NA	NA	291
ESGIJ	ESP	Gijón	5032	2140	NA	NA	110
ESZGA	ESP	Isla Cristina	6703	199	NA	NA	129
ESSNN	ESP	Santoña	6757	NA	NA	NA	124
ESIAS	ESP	Camariñas	6062	58	NA	NA	
ESPRT	ESP	Portosín	5934	NA	NA	NA	
PT999	PRT	Portugal - Unknown	NA	5912	NA	NA	
PTPRM	PRT	Portimao	1	4787	NA	NA	289
ESPSM	ESP	Puerto de Santa María	4284	NA	NA	NA	120
ESMRS	ESP	Muros	2871	1333	0	NA	116
ESCAD	ESP	Cádiz	3999	NA	NA	NA	104
ESBRM	ESP	Bermeo	3976	NA	NA	NA	103
ESZJY	ESP	Punta Umbria	3886	NA	NA	NA	130
ESCOX	ESP	Corme	3878	NA	NA	NA	
ESSDR	ESP	Santander	3685	2	7	NA	122
PTNZR	PRT	Nazaré	NA	3641	NA	NA	285
ESGTI	ESP	Getaria	3332	NA	NA	NA	111
PTLEI	PRT	Leixões	NA	3253	NA	NA	
ESSBA	ESP	Sanlucar De Barrameda	3167	NA	NA	NA	121
ESZJN	ESP	Portonovo	2837	NA	NA	NA	
ESSVB	ESP	San Vicente Barquera	2836	NA	NA	NA	125
ESLDO	ESP	Laredo	2811	NA	NA	NA	
ESMAI	ESP	Malpica de Bergantiños	2669	NA	NA	NA	
ESBDF	ESP	Barbate	2581	0	NA	NA	101
ESEWE	ESP	Fuenterrabia	2412	NA	0	NA	108
PTLOS	PRT	Lagos	NA	2284	NA	NA	283
ESCOD	ESP	Colindres	2195	NA	NA	NA	
ESCED	ESP	Cedeira	2121	NA	NA	NA	105
PTVDC	PRT	Viana do Castelo	294	1665	NA	NA	293
ESCNO	ESP	Cariño	1929	6	NA	NA	
ESMGA	ESP	Mugia	1906	NA	NA	NA	114
PTSET	PRT	Setúbal	NA	1747	NA	NA	290
PTPDV	PRT	Povoa de Varzim	NA	1577	NA	NA	287
ESPAS	ESP	Pasajes	751	719	72	NA	119
ESLS3	ESP	Lastres	1290	NA	NA	NA	
ESCBD	ESP	Cambados	1245	NA	NA	NA	

Shown are the UNLOCODE port code, the country, the port name and the landings in tones by vessel flag states, the data here being derived from the landings data. The right hand column shows the number of Tr records in the sampling data. While the number of samples need be in no way proportional to the landed weights it does give an indication of the coverage of the sampling across the major landing harbours.

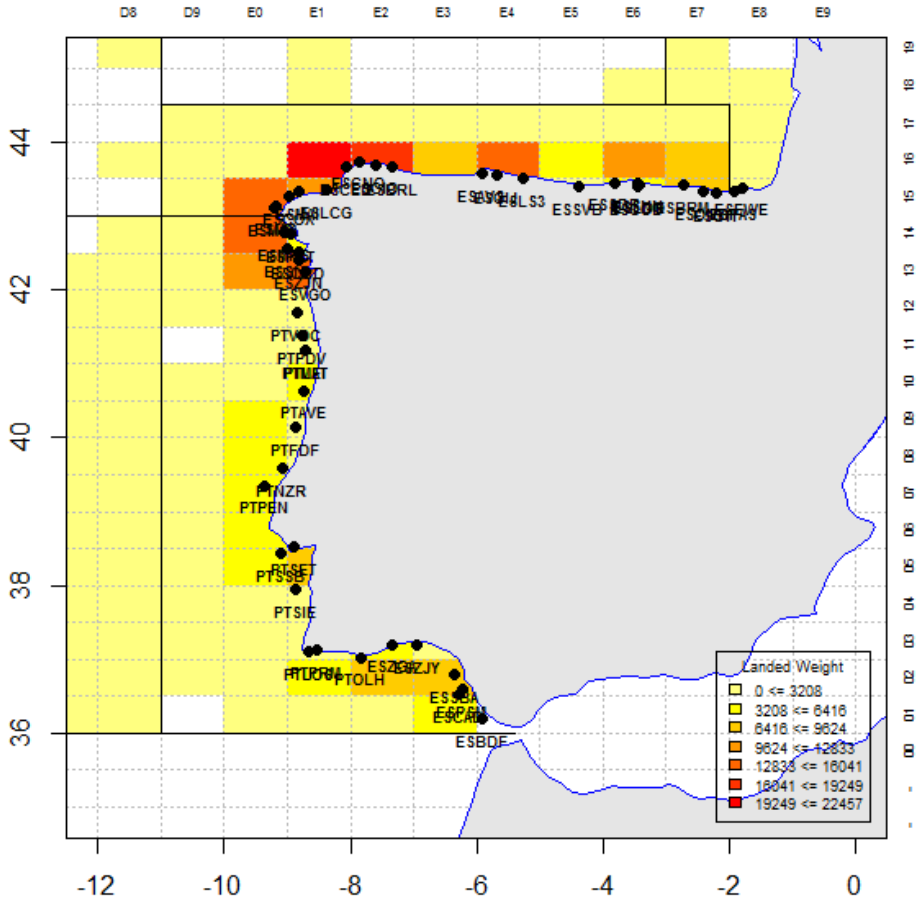


Fig. 3. The geographic locations of the top 49 landing harbours in the Iberian fishing grounds.

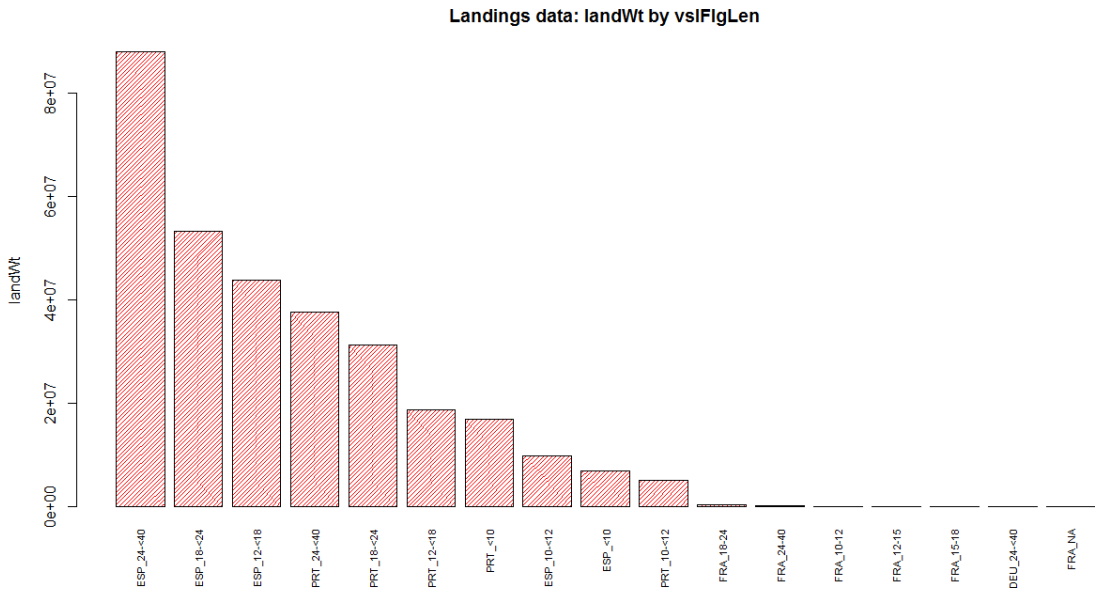


Fig. 4. Distribution of fleet segment for the vessel flag fleets active in the Iberian fishing area.

Table 2. Landed weights in tonnes by fleet segment for the fishing fleets active in the Iberian fishing area.

Flag Country	Fleet segment	Landed Weight
ESP	ESP_24-<40	88039
ESP	ESP_18-<24	53329
ESP	ESP_12-<18	43845
PRT	PRT_24-<40	37567
PRT	PRT_18-<24	31191
PRT	PRT_12-<18	18631
PRT	PRT_<10	16877
ESP	ESP_10-<12	9852
ESP	ESP_<10	6926
PRT	PRT_10-<12	4966
FRA	FRA_18-24	276
FRA	FRA_24-40	99
FRA	FRA_10-12	33
FRA	FRA_12-15	20
FRA	FRA_15-18	18
DEU	DEU_24-<40	3
FRA	FRA_NA	3

Sampling coverage of species/stocks in the Iberian fishing ground in 2014

A large number of species and group of species have been sampled in the Iberian fishing ground in 2014. Table 3 (A,B) gives an overview of the sampling coverage for length data and ageing by species

or group of species, and the current use of these data for stock assessment and advice. It is noted that the number of trips sampled (on-shore and at-sea) only gives an indication of the coverage of sampling for length by species or group of species once in every sampled trip several species are/maybe sampled for length.

Table 3A shows that some commercially important species are landed mixed under generic commercial names (*Trachurus, Lophidae, Trisopterus, Sepidae, Triglidae, Lepidorhombus, Diplodus*). Using CL and CS data uploaded in the RDB it was not possible to link species sampled for length with the name under which these species were reported. However, the addition of one field in SL and HL tables, to report the landing name of each sampled species would allow to merge CL and CS tables, and thus, to identify species landed mixed and assigned to supra-specific commercial species, or misassigned to commercial species. The analysis also show that some commercially important species due to their high economic value (i.e. *Nephrops norvegicus*) are not included in table 3A because species were selected based on landed weights. These aspects should be taken into account when establishing the regional coordination of sampling programs.

The majority of the 37 species and group of species that accounted in 2014 for the 95% of the total landed weight in the Iberian fishing ground (table 3A) are DCF categories 1 and 2. There are 9 species or group of species which are assigned category 3. The table also shows that the assessment of the 18 stocks (Iberian or widely distributed) carried out by ICES are mostly of category 1 (11 stocks) which is indicative of good data quality.

A large number of species and group of species are outside the top 95% of the landings in weight from the area (table 3B). The analysis highlights two major groups: a first group including species with trips sampled for length on-shore and at-sea and a second group of species with only trips sampled at-sea. The first group includes species commercially important which are landed mixed under generic commercial names and identified during the sampling, species commercially important with low landed weight but high prices (i.e. *Nephrops norvegicus*, *Pagellus bogaraveo*) and species/stocks landed in minor quantities or uncommon in the area. The second group shows rare species in the area as well as species not commercially important and discarded (i.e. *Capros aper*).

Table 3A.

Species	ESP	PRT	FRA	Trips sampled onshore	Trips sampled at-sea	Ageing	DCF categ	Ass categ	ices stock	ICES WG
Scomber colias	35884	26886	*	349	36	1252	2			
Scomber scombrus	43057	656	171	482	90	3428	1	1	mac-nea	WGWIDE
Trachurus	30578	NA	NA	7	1	NA	2			
Sardina pilchardus	12014	15557	*	288	17	8842	1	1	sar-soth	WGHANSA
Micromesistius poutassou	26267	1252	*	236	110	2870	1	1	whb-comb	WGWIDE
Trachurus trachurus	4679	15139	1	911	90	6446	2	1;1	hom-soth; hom west	WGHANSA; WGWIDE
Engraulis encrasicolus	12976	807	21	139	4	940	1	3;1	ane-por; ane-bisc	WGHANSA
Boops boops	11417	348	*	103	16	NA	3			
Octopus vulgaris	3691	8009	1	745	8	NA	2			WGCEPH
Merluccius merluccius	7321	2363	136	1103	112	NA	1	1	hke-soth	WGBIE
Conger conger	2010	910	*	302	30	NA	2			
Ommastrephidae	2860	6	NA	21	NA	NA	3			
Lophius spp	2008	416	42	NA	NA	NA	1	1;1	anp-8c9a;anb-8c9a	WGBIE
Aphanopus carbo	2	2083	NA	46	4	NA	1	3	bsf-89	WGDEEP
Trachurus picturatus	11	2033	NA	90	38	NA	3	3		
Trisopterus luscus	51	1719	1	711	38	NA	2			
Trisopterus	1583	NA	NA	4	NA	NA	2			
Pagellus acarne	838	625	*	456	17	NA	3			
Cerastoderma edule	NA	1456	NA	NA	NA	NA	3			
Brama brama	1223	3	*	7	NA	NA	3			
Sepia officinalis	13	1200	*	276	2	NA	2			WGCEPH
Raja clavata	535	649	*	331	30	NA	1	3;3	rjc-pore;rjc-bisc	WGEF
Parapenaeus longirostris	883	288	NA	63	11	NA	2			
Sepiidae	1049	NA	NA	5	NA	NA	2 s.officinalis			WGCEPH
Triglidae	1026	NA	*	37	1	NA	2 eutrigla gurnardus, aspitrigla cuculus			
Dicentrarchus labrax	376	612	3	250	NA	NA	2	5	bss-8c9a	WGBIE
Lepidorhombus	970	NA	NA	7	NA	NA	1	1;1	mgb-8c9a; mgw-8c9a	WGBIE
Sarpa salpa	727	218	*	43	NA	NA	2 Sparidae			
Spisula solida	NA	904	NA	NA	1	NA	3			
Eledone	878	NA	NA	1	NA	NA	3			WGCEPH
Sarda sarda	764	99	*	103	2	NA	3			
Argyrosomus regius	406	440	1	95	NA	NA	2			
Diplodus	829	18	NA	20	NA	NA	2 Sparidae			
Solea solea	261	456	2	441	12	NA	1	5	sol-8c9a	WGBIE
Lepidopus caudatus	580	138	NA	33	4	NA	2			
Helicolenus dactylopterus	600	99	1	235	69	NA	2			
Zeus faber	249	395	1	379	34	NA	2			

(*) < 0.5 ton

Table 3A. Landings (tonnes) by country (Spain – ESP, Portugal – PRT, France – FRA), number of trips sampled for length on-shore and at-sea, and number of aged fish, for the species and groups of species accounting for 95% of the total landings in the Iberian fishing ground in 2014.

Species	ESP	PRT	FRA	Trips sampled onshore	Trips sampled at-sea	Ageing	DCF categ	Ass categ	ices stock	ICES WG
Mullus surmuletus	4	206	2	562	9	NA	2	5	mur-west	WGWIDE
Lophius budegassa	1	140	NA	417	23	NA	1	1	anb-8c9a	WGBIE
Lophius piscatorius	NA	NA	NA	405	18	NA	1	1	anp-8c9a	WGBIE
Chelidonichthys lucerna	1	72	*	394	20	NA	3			
Spondyliosoma cantharus	429	163	*	333	8	NA	3			
Scyliorhinus canicula	464	NA	*	298	77	NA	3	3	syc-8c9a	WGEF
Diplodus vulgaris	2	331	NA	253	5	NA	2 Sparidae			
Pegusa lascaris	*	114	NA	245	7	NA	3			
Lepidorhombus boscii	3	36	NA	245	70	345	1	1	mgb-8c9a	WGBIE
Diplodus sargus	3	383	*	243	5	NA	2 Sparidae			
Solea senegalensis	NA	NA	*	187	5	NA	3			
Todaropsis eblanae	NA	NA	NA	175	8	NA	3			
Eledone cirrhosa	32	62	NA	174	12	NA	3			WGCEPH
Illex coindetii	NA	NA	NA	174	6	NA	3			WGCEPH
Phycis phycis	98	191	NA	173	9	NA	2			
Pagellus erythrinus	236	74	*	168	1	NA	3			
Dicologlossa cuneata	196	282	*	163	9	NA	2			
Chelidonichthys cuculus	NA	NA	NA	159	48	NA	3	6	gur-comb	WGWIDE
Scophthalmus maximus	NA	NA	NA	155	3	NA	3			
Lepidorhombus whiffiagonis	22	45	2	152	13	499	1	1	mgw-8c9a	WGBIE
Trachurus mediterraneus	3	9	*	146	1	411	2			
Phycis blennoides	250	7	1	140	32	NA	2	3	gfb-comb	WGDEEP
Trigla lyra	2	7	NA	136	32	NA	3			
Sparus aurata	164	286	*	133	NA	NA	2 Sparidae			
Raja montagui	43	39	NA	130	10	NA	1	5;5	rjm-pore; rjm-bisc	WGEF
Nephrops norvegicus	85	112	1	128	12	NA	1	3;3;3;3;3	nep-25;nep-2627; nep-2829; nep-30;nep-31	WGHMM
Scophthalmus rhombus	1	36	*	128	4	NA	2			
Pagrus pagrus	1	90	NA	126	6	NA	2 Sparidae			
Eutrigla gurnardus	*	1	*	111	34	NA	2	6	gug-89a	wgnew
Microchirus	113	141	NA	108	3	NA	2 m.variegatus			
Pagellus bogaraveo	324	60	*	107	10	NA	1	5	sbr-ix	WGDEEP
Raja brachyura	2	228	*	107	3	NA	1	5	rjh-pore	WGEF
Pollachius pollachius	346	1	*	102	3	16	2	5	pol-89a	WGBIE
Chelidonichthys obscurus	NA	*	NA	94	11	NA	3			
Microchirus azevia	NA	NA	NA	101	3	NA	3			
Loligo vulgaris	22	133	NA	89	3	NA	2			WGCEPH
Microchirus variegatus	18	122	*	86	13	NA	2			
Citharus linguatula	NA	NA	NA	86	5	NA	3			
Pleuronectes platessa	5	51	*	75	3	NA	1		ple-89	WGBIE
Platichthys flesus	NA	44	*	61	1	NA	3			
Argentina sphyraena	NA	NA	NA	60	27	NA	2 argentina spp			
Loligo	274	2	NA	59	1	NA	2 l.vulgaris			WGCEPH
Balistes capriscus	NA	71	NA	53	1	NA	3			
Leucoraja naevus	27	10	NA	48	6	NA	1	3;3	rjn-pore;rjn-bisc	WGEF
Raja microocellata	*	NA	NA	48	1	NA	1			
Scorpaena scrofa	2	2	NA	41	1	NA	3			
Scorpaena	186	24	NA	40	NA	NA	3			
Trachinus draco	NA	4	*	39	6	NA	3			
Eledone moschata	NA	NA	NA	38	2	NA	3			WGCEPH
Oblada melanura	NA	*	*	39	NA	NA	3			
Trigloporus lastoviza	NA	NA	NA	39	1	NA	3			
Aristeus antennatus	11	33	NA	36	5	NA	3			
Squilla mantis	380	NA	NA	33	NA	NA	3			
Dicentrarchus punctatus	NA	40	NA	32	NA	NA	3			
Decapodiformes	NA	NA	NA	29	8	NA	3			
Polyprion americanus	19	58	*	28	4	NA	3			
Pagellus bellottii	9	1	NA	27	NA	NA	3			
Prionace glauca	380	247	1	26	3	NA	1		bsh-nea	WGEF
Diplodus cervinus	NA	6	NA	25	NA	NA	2 Sparidae			
Molva macrophthalma	NA	*	NA	25	12	NA	3			
Mugil cephalus	NA	138	NA	24	NA	NA	3			
Alosa alosa	*	65	NA	23	2	NA	3			
Labrus bergylta	*	*	NA	22	1	NA	2 Sparidae			
Todarodes sagittatus	NA	NA	NA	22	3	NA	3			
Zenopsis conchifer	1	28	NA	21	1	NA	3			
Dipturus oxyrinchus	NA	NA	NA	19	1	NA	1			
Alosa fallax	279	2	NA	18	NA	NA	3			
Maja squinado	NA	24	*	18	1	NA	3			
Muraenidae	NA	14	NA	18	NA	NA	3			
Beryx decadactylus	4	7	NA	18	1	NA	1 Beryx spp	5	alf-comb	WGDEEP
Labrus mixtus	NA	NA	NA	18	3	NA	2 Sparidae			
Raja undulata	NA	NA	NA	18	2	NA	1	6;6;6	rju-8ab; rju-8c; rju-9a	WGEF
Trisopterus minutus	*	NA	NA	18	6	NA	2 trisopterus spp			
Penaeus kerathurus	157	NA	NA	17	NA	NA	3			
Cepola macrophthalma	1	*	NA	17	4	NA	3			
Serranus cabrilla	*	*	NA	17	2	NA	3			
Torpedo marmorata	NA	NA	*	17	NA	NA	3			

(*) < 0.5 ton

Species	ESP	PRT	FRA	Trips sampled onshore	Trips sampled at-sea	Ageing	DCF categ	Ass categ	ices stock	ICES WG
Auxis rochei	NA	23	NA	16	NA	NA	3			
Lithognathus mormyrus	NA	82	*	15	NA	NA	2 Sparidae			
Diplodus bellottii	NA	NA	NA	15	1	NA	2 Sparidae			
Belone belone	156	14	*	14	2	NA	3			
Galeus melastomus	12	20	NA	14	30	NA	1		sho-89a	WGEF
Balistidae	NA	*	*	13	NA	NA	3			
Raja miraletus	NA	*	NA	14	8	NA	1			
Scomberesox saurus	NA	*	NA	14	NA	NA	3			
Pagrus auriga	NA	3	NA	12	NA	NA	2 Sparidae			
Lepidotrigla cavillone	31	244	NA	11	15	NA	3			
Molva molva	1	*	*	11	2	NA	2	3	lin-oth	WGDEEP
Arnoglossus	NA	NA	NA	11	5	NA	3			
Torpedo torpedo	NA	NA	NA	11	1	NA	3			
Halobatrachus didactylus	NA	32	NA	10	NA	NA	3			
Chelon labrosus	NA	35	*	9	NA	NA	3			
Hoplostethus mediterraneus	NA	28	NA	9	10	NA	3			
Aristaeopsis edwardsiana	*	21	NA	9	1	NA	3			
Gaidropsarus vulgaris	NA	NA	NA	9	1	NA	3			
Diplodus annularis	NA	66	NA	8	NA	NA	2 Sparidae			
Alloteuthis	4	25	NA	8	NA	NA	3			
Diplodus puntazzo	NA	8	NA	8	NA	NA	2 Sparidae			
Palaemon serratus	1	1	NA	8	2	NA	3			
Mullus	481	1	NA	7	NA	NA	2 m.surmuletus			
Mustelus mustelus	NA	161	NA	7	1	NA	1			
Galeorhinus galeus	55	114	*	6	1	NA	1	5	gag-nea	WGEF
Ruvettus pretiosus	31	18	NA	6	1	NA	3			
Mustelus	18	8	NA	6	1	NA	1 m.asterias, m. mustelus	3	trk-nea	WGEF
Liza aurata	NA	8	NA	6	NA	NA	3			
Umbrina canariensis	NA	NA	*	6	NA	NA	3			
Pomatomus saltatrix	NA	2	NA	5	NA	NA	3			
Umbrina cirrosa	NA	1	NA	5	NA	NA	3			
Xiphias gladius	130	417	*	4	NA	NA	3			
Liza ramada	NA	304	*	4	NA	NA	3			
Isurus oxyrinchus	36	26	NA	4	NA	NA	1			
Serranus sp.	*	23	NA	4	NA	NA	3			
Dentex dentex	*	9	NA	4	NA	NA	2 Sparidae			
Homarus gammarus	*	3	*	4	NA	NA	3			
Aristaeomorpha foliacea	1	*	NA	4	1	NA	3			
Mullus barbatus	NA	*	NA	4	NA	NA	3			
Rajidae	413	51	*	4	NA	NA	1 rajidae		raj-89a	WGEF
Stromateus fiatola	*	28	NA	3	NA	NA	3			
Katsuwonus pelamis	NA	4	NA	3	1	NA	3			
Spicara sp.	*	4	NA	3	NA	NA	3			
Ammodytes sp.	NA	3	NA	3	NA	NA	3			
Cynoscion regalis	NA	1	NA	3	NA	NA	3			
Epinephelus marginatus	NA	*	*	3	NA	NA	3			
Epinephelus sp.	*	*	NA	3	NA	NA	3			
Mugil sp.	NA	182	NA	2	NA	NA	3			
Merlangius merlangus	8	50	*	2	NA	NA	2	5	whg-89a	WGHMM
Necora puber	NA	22	NA	2	NA	NA	3			
Murex	*	17	NA	2	NA	NA	3			
Myliobatis aquila	NA	17	NA	2	NA	NA	1			
Phycis sp.	1	4	NA	2	NA	NA	2 p.blenoides, p.phycis			
Caranx rhonchus	NA	3	NA	2	NA	NA	3			
Pontinus kuhlii	*	3	NA	2	NA	NA	3			
Chimaera monstrosa	NA	NA	*	2	4	NA	3			
Gaidropsarus sp.	NA	NA	NA	2	3	NA	3			
Leucoraja circularis	*	NA	NA	2	NA	NA	3			
Pomadasys incisus	NA	*	NA	2	NA	NA	3			
Trichiurus lepturus	341	2	NA	1	1	NA	3			
Scyliorhinus stellaris	10	330	NA	1	1	NA	3			
Scyliorhinus sp.	10	210	NA	1	NA	NA	3			
Plectorhinchus mediterraneus	108	3	NA	1	NA	NA	3			
Solea	36	32	NA	1	1	NA	1 solea solea	6	sol-8c9a	WGBIE
Lophius	*	31	NA	1	NA	NA	1 l.budegassa, l.piscatorius			
Beryx	9	4	NA	1	NA	NA	1 Beryx spp			
Beryx splendens	4	9	NA	1	1	NA	1 Beryx spp	5	alf-comb	WGDEEP
Glyptocephalus cynoglossus	1	10	NA	1	NA	NA	3			
Atherina presbyter	*	7	NA	1	3	NA	3			
Mustelus asterias	NA	7	NA	1	NA	NA	1			
Hexanchus griseus	NA	1	NA	1	NA	NA	3			
Mora moro	NA	1	NA	1	NA	NA	3			
Chamelea galli	NA	397	NA	NA	NA	NA	3			
Squalus acanthias	NA	1	NA	1	1	NA	1			
Lamna nasus	NA	*	NA	1	NA	NA	1	5	por-nea	WGEF
Melanogrammus aeglefinus	NA	NA	*	1	NA	NA	3			
Mola mola	NA	*	NA	1	6	NA	3			

(*) < 0.5 ton

Species	ESP	PRT	FRA	Trips sampled onshore	Trips sampled at-sea	Ageing	DCF categ	Ass categ	ices stock	ICES WG
Capros aper	NA	NA	NA	NA	79	NA	3	3	boc-nea	WGWIDE
Malacocephalus laevis	NA	NA	NA	NA	29	NA	3			
Arnoglossus later	*	1	NA	NA	21	NA	3			
Callionymus lyra	NA	NA	NA	NA	13	NA	3			
Etmopterus spix	NA	NA	NA	NA	11	NA	3			
Gadiculus argenteus	NA	NA	NA	NA	11	NA	3			
Macroramphosus scolopax	NA	1	NA	NA	7	NA	3			
Coelorinchus caelorhincus	NA	NA	NA	NA	7	NA	3			
Nezumia sclerorhynchus	NA	NA	NA	NA	7	NA	3			
Polybius henslowii	NA	53	NA	NA	6	NA	3			
Deania calcea	NA	NA	NA	NA	6	NA	1			
Dalatias licha	NA	NA	NA	NA	5	NA	1	3	sck-nea	WGEF
Synchiropus phaeton	NA	NA	NA	NA	5	NA	3			
Epigonus telescopus	NA	1	NA	NA	4	NA	3			
Lepidion eques	NA	NA	NA	NA	4	NA	3			
Rossia macrosoma	NA	NA	NA	NA	4	NA	3			
Trachyrincus scabrus	NA	NA	NA	NA	4	NA	3		tsu-nea	WGDEEP
Alloteuthis subulata	2	11	NA	NA	3	NA	3			WGCEPH
Etmopterus pusillus	NA	NA	NA	NA	3	NA	3			
Gadella maraldi	NA	NA	NA	NA	3	NA	3			
Hoplostethus atlanticus	NA	NA	NA	NA	3	NA	1	6	ory-comb	WGDEEP
Hymenocephalus italicus	NA	NA	NA	NA	3	NA	3			
Pisces	NA	NA	NA	NA	3	NA	3			
Polymetme corythaeola	NA	NA	NA	NA	3	NA	3			
Petromyzon marinus	NA	78	NA	NA	2	NA	3			
Callionymus sp.	NA	NA	NA	NA	2	NA	3			
Centrophorus granulosus	NA	NA	NA	NA	2	NA	1			
Centrophorus squamosus	NA	NA	NA	NA	2	NA	1	5	gup-nea	WGEF
Centroscymnus coelolepis	NA	NA	NA	NA	2	NA	1	3	cyo-nea	WGEF
Chaux pictus	NA	NA	NA	NA	2	NA	3			
Ciliata mustela	NA	NA	NA	NA	2	NA	3			
Crangon crangon	NA	NA	NA	NA	2	NA	3			
Etmopterus	NA	NA	NA	NA	2	NA	3			
Nezumia bairdii	NA	NA	NA	NA	2	NA	3			
Plesionika martia	NA	NA	NA	NA	2	NA	3			
Pomatoschistus minutus	NA	NA	NA	NA	2	NA	3			
Sphoeroides pachygaster	NA	NA	NA	NA	2	NA	3			
Palinurus elephas	NA	9	*	NA	1	NA	3			
Anthias anthias	NA	1	NA	NA	1	NA	3			
Alloteuthis media	NA	NA	NA	NA	1	NA	3			WGCEPH
Argyropelecus	NA	NA	NA	NA	1	NA	3			
Arnoglossus imperialis	NA	NA	NA	NA	1	NA	3			
Auxis thazard	NA	NA	NA	NA	1	NA	3			
Blennius ocellaris	NA	NA	NA	NA	1	NA	3			
Callionymus maculatus	NA	NA	NA	NA	1	NA	3			
Callionymus reticulatus	NA	NA	NA	NA	1	NA	3			
Cyttopsis rosea	NA	NA	NA	NA	1	NA	3			
Deania profundorum	NA	*	NA	NA	1	NA	3			
Echinus acutus	NA	NA	NA	NA	1	NA	3			
Geryon longipes	NA	NA	NA	NA	1	NA	3			
Lepidotrigla dieuzeidei	NA	NA	NA	NA	1	NA	3			
Myctophidae	NA	NA	NA	NA	1	NA	3			
Paracentrotus lividus	NA	NA	NA	NA	1	NA	3			
Peeopsis serrata	NA	NA	NA	NA	1	NA	3			
Portunidae sp.	NA	NA	NA	NA	1	NA	3			
Sepiida	NA	NA	NA	NA	1	NA	2 s.officilis			
Sepiola rondeletii	NA	NA	NA	NA	1	NA	3			
Syngthus acus	NA	NA	NA	NA	1	NA	3			
Xenodermichthys copei	NA	NA	NA	NA	1	NA	3			
Carcinus maes	*	393	NA	NA	NA	NA	3			
Auxis sp.	326	NA	NA	NA	NA	NA	3			
Scombridae	NA	291	NA	NA	NA	NA	1 s.scombrus, 2 s.colias			
Osteichthyes	21	142	*	NA	NA	NA	3			
Squaliformes	116	NA	NA	NA	NA	NA	1 squalus acanthias			
Portunus sp.	NA	103	NA	NA	NA	NA	3			
Aspitrigla cuculus	7	90	*	NA	NA	NA	2	6	gur-comb	WGWIDE
Callista chione	NA	97	NA	NA	NA	NA	3			
Bothidae sp.	10	84	NA	NA	NA	NA	3			
Mytilidae sp.	NA	86	NA	NA	NA	NA	3			
Dentex	84	NA	NA	NA	NA	NA	2 Sparidae			
Pharus legumen	NA	69	NA	NA	NA	NA	3			
Ommastrephes bartramii	3	63	NA	NA	NA	NA	3			
Thunnus alalunga	64	1	1	NA	NA	NA	3			
Molva dypterygia	62	NA	*	NA	NA	NA	1	5	bli-oth	WGDEEP
Venerupis pullastra	NA	57	NA	NA	NA	NA	3			
Lophiodes kempi	32	18	NA	NA	NA	NA	3			

(*) < 0.5 ton

Table 3B. Number of trips sampled for length on-shore and at-sea and number of aged fish for the species and groups of species not retained under the 95% of the total landings criterion. Species and groups of species whose landings were lower than 50 tons and have no sampling were not included in the table (66 species). The table also shows the DCF category regarding species sampling specification, the ICES assessment category, stock name and Expert Group which are end-users of collected data. DCF category: Group 1) Species that drive the international management process including species under EU management plans or EU recovery plans or EU long term multi-annual plans or EU action plans for conservation and management based on Council Regulation (EC) No 2371/2002; Group 2) Other internationally regulated species and major non-internationally regulated by-catch species; Group 3) All other by-catch (fish and shellfish) species. The list of Group 3 species

shall be established at the regional level by the relevant regional co-ordination meeting and agreed by STECF. Assesment category: 1) stocks with quantitative assesment; 2) stocks with analytical assesments and forecasts that are only treated qualitatively; 3) stocks for which survey-based assesment indicates trends; 4) stocks for which only reliable catch data are available; 5) landings only stocks; 6) negligible landings stocks and stocks caugth in minor amount as by-catch

Annex 7: Quality control procedures, biological data

Biological Data screening (survey and commercial onshore and offshore catch sampling)

1. Data capture
    - Standard data recording forms with unambiguous data fields for capturing all the crucial data for each sampling event. Consider water proof paper or white boards.
    - Standard calibrated sampling tools – measuring boards/callipers
    - Electronic data capture
        - Limits transcription errors
        - Can provide a time stamp for each fish sampled
        - Pre-screening to capture incomplete fields
        - Upload validation (*see Data entry checks below*)
        - Post notifications including upload success

2. Data entry
    - Qualifying data
        - Reference to data source – recorded rather than assumed.
            - Environment - Vessel, Quay, Market, Merchants
            - Catch details -Skipper, logbooks, merchant, Official records
            - Sampler ID – this might refer to staff profile which could include references to relevant, training, competencies and experience.
            - Sampling information
                - Vessel selection method – *Random drawlist (list vessels from which a vessel is drawn) or other*
                - Sampling unit (sub gear) - *Codend, Combined codends, Port side, starboard side etc.*
                - Gear parameters - *Fishing length, Headline length, footrope, Fleet length etc.*
                    - Relating to specific gears
                        - *Cod end mesh, Mesh size, Tooth bar length etc.*
                        - Presence or absence - SQMP and mesh size, Chain mat, Veil nets, etc.
            - Sampling details
                - Catch component
                - Raising factors
                - Sampling unit – *Count, Measure, Volume*
        - Units of measurement, weight, volume, count
            - Whether estimated or not
            - Reference number of the calibrated measuring tool
    - Compulsory fields - Ensures no crucial information is missed.
    - Data checks
        - Relative values
            - Date of landing - *relative to current date and date of sampling*
            - Date of sampling - *relative to current date and date of landing*
            - Port of landing - *relative to port of sampling*
            - Port of sampling - *relative to port of landing*
        - Limited lists (for example ‘drop down lists’)
            - Qualifying data *(see above)*
            - Vessel list
                - Registered vessels - *No dummy*
                - More than one vessel can be attributed to a sample if the vessel is not known
            - Gear
            - Ports

        - Area – *dependant on rectangle*
        - Rectangle – *dependant on area*
        - Species
    - Range limits
        - Min and max lengths by species
        - Length weight checks
        - Sample weight within a range based on the calculated weight from the length distribution
        - Individual weight v calculated weight (based on length)
        - Calculated sums v entered total
        - Shoot and haul positions within rectangle and area information
        - Gear parameters - Fishing length, mesh sizes etc.
        - Length v. age and Length v. weight relationships
        - *Length age relationships (see below)*

3. Post validation (see document)
    - Status
        - A record of what stage the data is at – *Complete, Checked, Valid and available for use*
    - Double checking
        - All trips checked against paperwork - all errors corrected, scored and recorded
        - Persistent errors investigated.
    - QC reports which summarise the data and data ranges.
        - Relational data - comparing the current trip data with similar data stored on the national sampling database. See Irish example WKPICS 3 Section 2.4.2 pp. 33. Catch ratios, Raising Factors, Trip length, Tow length, Tow duration, Soak time, Regional species lists – relating to the likelihood of its occurrence.
    - Cross checking with other data sources
        - Comparing sample details against - official data and sales notes recording commercial catch and effort data and details recorded for trip sampled. Presence or absence
        - VMS data
    - Otolith processing and ageing
        - Refer to PGBIOP guidance
        - Use trained and competent staff. Record of competency
        - Proportional checks.
        - QA - otolith exchanges

Table 5.3.1.a **National data capture at sea**

NATIONAL DATA CAPTURE - At sea sampling											
Please complete with Y (Yes), a null will be assumed as N (No)	Belgium	France	Germany	Ireland	Netherlands	Portugal	ortugal Azore	Spain	ı (basque Cou	K (Eng + Wale	UK (Scotland)
Completed	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trained and competent staff.											
• documented standard protocols and procedures	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• subject to documented QA checks.	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Data capture											
• Standard data recording forms with unambiguous data fields for capturing all the crucial data for each sampling event.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Standard calibrated sampling tools – measuring boards/calipers	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Electronic data capture	Sometimes	Sometimes	N	Y	N	N	N	N	N	N	partly
o A time stamp for each fish sampled	N	N		N		NA	NA		NA		partly
o Upload pre-screening to capture incomplete fields	Y	Y		Y		NA	NA		NA		Y
o Post notifications including upload success	Y	Y		Y		NA	NA		NA		Y
Data entry											
• Qualifying data											
o Reference to data source – recorded rather than assumed.											
▪ Sampler ID – this could refer to a staff profile which includes references to training, competencies and experience.	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
▪ Target species	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	partly
▪ Sampling information											
• Vessel selection method - *Drawlist or other*	(opportunisti	Y	(opportunisti	(opportunisti	O	(Opportunisti	(opportunisti	Y	Y	Y	Y
• Vessel refusals and call logs.	N	Y	Y	N	N	In prep.	Y	Partial	Y	Y	Y
• Sampling unit (sub gear) - *Codend, Combined codends, Port side, starboard side etc*	Y	Y	mostly	Y	Y	Y	Y	mostly	Y	Y	Y
• Gear parameters - *Fishing length, Headline length, footrope, Fleet length etc*	N	Sometimes	not always	Y	not always	Y	Y	Y	Y	Y	N
o Relating to specific gears											
▪ *Cod end mesh, Mesh size, Tooth bar length etc.*	Y	Y	Y	Y	Y	Y	NA	Sometimes	Y	Y	Y
▪ Presence or absence - *SQMP and mesh size, Chain mat, Veil nets, etc*	Y	lectivity devic	N	Y	?	Y	NA	?	Y	Y	N
▪ Sampling details											
▪ Catch component	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Raising factors	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Sampling unit – *Count, Measure, Volume*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o Units of measurement, weight, volume, count											
▪ Whether estimated or not	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Reference number of the calibrated measuring tool	N	N	N	N	N	N	N	N	N	N	N
o Measurement - recorded rather than assumed											
▪ Carapace length, Total length, Shell height, Fork length etc.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Compulsory fields - Ensures no crucial information is missed.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Data checks											
o Relative values											
▪ Date of landing - *relative to date of departure*	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
▪ Date of departure - *relative to date of landing*	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
▪ Date of haul - *relative to date of landing and departure*	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
o Limited lists (for example 'drop down lists')											
▪ Qualifying data *(see above)*	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	Y
▪ Vessel list	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	Y
• Registered vessels - *No dummy*	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	Y
▪ Gear	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Ports	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Area – *dependant on rectangle*	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y
▪ Rectangle – *dependant on area*	Y	Y	Y	Y	Y	Y	NA	Y	Y	Y	Y
▪ Species	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o Range limits											
▪ Min and max lengths by species	N	Y	Y	Y	Y	(through QCA	Y	Y	Y	Y	partly
▪ Length weight checks	N	Y	Y	Y	N	(through QCA	Y	Y	Y	N	partly
▪ Sample weight within a range based on the calculated weight from the length distribution	N	Y	Y	Y	N	(through QCA	Y	Y	N	N	N
▪ Individual weight v calculated weight (based on length)	N	N	N	Y	N	(through QCA	Y	Y	N	N	N
▪ Calculated sums v entered total	N	Y	Y	Y	Y	(through QCA	Y		Y	Y	Y
▪ Shoot and haul positions within rectange and area information	Y	Y	within rectang	Y	Y	(through QCA	NA	Y	Y	Y	Y
▪ Gear parameters - Fishing length, mesh sizes etc	Y	N	N	Y	Y	(through QCA	Y	Partially	N	Y	partly
▪ Length v. age and Length v. weight relationships	N	Y	Y	Y	N	(through QCA	Y (Partially)	Y	Y	N	N
Post validation											
• Status											
o A record of what stage the data is at – *Complete, Checked, Valid and available for use*	Y	Y	N	Y	Y	N	Y	N	N	Y	N
• Double checking											
o All trips checked against paperwork - all errors corrected, scored and recorded	PARTIAL	Y	N	Y	Y	random samp	Y	N	PARTIAL	Y	Y
o Persistent errors investigated.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• QC reports which summarise the data and data ranges.											
o Relational data - comparing the current trip data with similar data stored on the national sampling database. See Irish example WKPICS 3 Section 2.4.2 pp. 33. Catch ratios, Raising Factors, Trip length, Tow length, Tow duration, Soak time, Regional species lists – relating to the likliehood of its occurence.	N	Y		Y	N	N	N	N	In prep.	In prep.	N
• Cross checking with other data sources											
o Comparing sample details against - official data and sales notes recording commercial catch and effort data and details recorded for trip sampled. Presence or absence	N	Y		Y	N	Y	Y	N	Y	N	Y
o VMS data	N	Y		Y	Y if in doubt	N	N	N	N	N	Y
• Otolith processing and ageing											
o Otolith reading											
o Training to competency	Y	Not at sea		Y	y	Y	N	Y	Y	Y	Y
o QC	Y	Not at sea		Y	y	Y	N	Y	al (for some f	Y	Y
o QA - otolith exchanges	Y	Not at sea		Y	y	Y	N	Y	al (for some f	Y	Y

Table 5.3.1.b **National data capture on shore**

NATIONAL DATA CAPTURE - Onshore sampling									
Please complete with Y (Yes), a null will be assumed as N (No)	France	Ireland	Netherlands	Portugal	ortugal Azor	Spain	(Basque Cou	(Eng + Wal	UK (Scotland
Completed	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trained and competent staff.									
• documented standard protocols and procedures	Y	Y	Y	Y	Y	Y	Y	Y	Y
• subject to documented QA checks.	In prep.	Y	Y	In prep.	Y	N	N	N	Y
Data capture									
• Standard data recording forms with unambiguous data fields for capturing all the crucial data for each sampling event.	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Standard calibrated sampling tools – measuring boards/calipers	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Electronic data capture	Partly	Partly	N	N	N	N	N	Y	partly
o A time stamp for each fish sampled	N	N		NA	NA	NA	NA	Y	Y
o Upload pre-screening to capture incomplete fields	Y	Y		NA	NA	NA	NA	Y	Y
o Post notifications including upload success	Y	Y		NA	NA	NA	NA	Y	Y
Data entry									
• Qualifying data									
o Reference to data source – recorded rather than assumed.									
▪ Environment - Vessel, Quay, Market, Merchants	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Source of catch details -Skipper, logbooks, merchant, Official records	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Sampler ID – this could refer to a staff profile which includes references to training, competencies and experience.	Y	Y	Y	N	Y	N	N	Y	Y
▪ Sampling information									
• Vessel, Trip, sample selection method - *Drawlist or other*	Y	Random	N	Y (Random)	Y	Y	Y	N	Y (not shellfish)
• Gear parameters - *Fishing length, Headline length, footrope, Fleet length etc*									
o Relating to specific gears									
▪ *Cod end mesh, Mesh size, Tooth bar length etc.*	N	N	N	N	Y	N	Y	Y	Y
▪ Sampling details									
▪ Raising factors	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Calculation method	Y	Y	Y	Y	Y	Y	Y		Y
▪ Sampling unit – *Count, Measure, Volume*	Y	Y	Y	Y	Y	Y	Y	Y	Y
o Units of measurement, weight, volume, count									
▪ Whether estimated or not	Y	Y	N	Y	Y	Y	Y	N	Y
▪ Reference number of the calibrated measuring tool	N	N	N	N	N	N	N	Y	N
o Measurement - recorded rather than assumed									
▪ Carapace length, Total length, Shell height, Fork length etc.	Y	Y	Y	Y	N	Y	Y	Y	Y
• Compulsory fields - Ensures no crucial information is missed.	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Data checks									
o Relative values									
▪ Date of landing - *relative to current date and date of sampling*	Y	Y	Y	In prep.	Y	Y	N	Y	Y
▪ Date of sampling - *relative to current date and date of landing*	Y	Y	Y	In prep.	Y	Y	N	Y	Y
▪ Port of landing - *relative to port of sampling*	Y	Y	Y	In prep.	Y	Y	N	Y	Y
▪ Port of sampling - *relative to port of landing*	Y	Y	Y	In prep.	Y	Y	N	Y	Y
o Limited lists (for example 'drop down lists')									
▪ Qualifying data *(see above)*	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Vessel list	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Registered vessels - *No dummy*	Y	Y	Y	Y	Y	Y	Y	Y	Y
• More than one vessel can be attributed to a sample if the vessel is not known	N	N	N	N	N	?	?	Y	partly - shellfish only
▪ Gear	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Ports	Y	Y	Y	Y	Y	Y	Y	Y	Y
▪ Area – *dependant on rectangle*	Y	Y	Y	NA	NA	Y	Y	Y	Y
▪ Rectangle – *dependant on area*	Not always	Y	Y	NA	NA	NA	Y	Y	Y
▪ Species	Y	Y	Y	Y	Y	Y	Y	Y	Y
o Range limits									
▪ Min and max lengths by species	Y	Y	Y	through QC	Y	N	Y	Y	Y
▪ Length weight checks	Y	Y	Y	through QC	Y	Y	Y	Y	partly
▪ Sample weight within a range based on the calculated weight from the length distribution	Y	N	Y	through QC	Y	Y	N	Y	partly
▪ Individual weight v calculated weight (based on length)	N	Y	N	through QC	N	N	N	Y	N
▪ Calculated sums v entered total	NA	N	Y	through QC	Y	Y	Y	Y	N
▪ Length v. age and Length v. weight relationships	NA	Y	Y	through QC	Y (Partially)	N	Y	N	N
Post validation									
• Status									
o A record of what stage the data is at – *Complete, Checked, Valid and available for use*	Y	N	Y	N	Y	Y	N	Y	Y
• Double checking									
o All trips checked against paperwork - all errors corrected, scored and recorded	Y	Y	Y	andom samp	Y	Y	Some	Some	Y
o Persistent errors investigated.	Y	Y	Y	Y	Y	Y	Y	Y	Y
• QC reports which summarise the data and data ranges.									
o Relational data - comparing the current trip data with similar data stored on the national sampling database. See Irish example WKPICS 3 Section 2.4.2 pp. 33. Catch ratios, Raising Factors, Trip length, Tow length, Tow duration, Soak time, Regional species lists – relating to the likliehood of its occurence.	N	N	N	N	N	N	In prep.	In prep.	N
• Cross checking with other data sources									
o Comparing sample details against - official data and sales notes recording commercial catch and effort data and details recorded for trip sampled. Presence or absence	Y	Y	Y	Y	Y	Y	Y	N	Y
o VMS data	Y	Y	Y	N	N	N	N	N	N
• Otolith processing and ageing									
o Otolith reading									
o Training to competency	Y	Y	Y	Y	Y	Y	Y	Y	Y
o QC	Y	Y	Y	Y	Y	Y	Y	Y	Y
o QA - otolith exchanges	Y	Y	Y	Y	Y	Y	Y	Y	Y

NATIONAL DATA PROCESSING											
Please complete with Y (Yes), a null will be assumed as N (No)	Belgium	France	Germany	Ireland	Netherlands	Portugal	ortugal Azor	Spain	(Basque Cou	(Eng + Wal	UK (Scotland
Completed		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Relational Checks											
• Monitoring achievements											
o Review data collected in relation to the sampling design – number of samples against strata and commercial effort		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
• Spatial plots – sampling events compared to fishing effort – see SGPIDS 3		Y	partly	Y	Y	Y	N	N	N	N	Y
• Temporal plots – trends analysis											
o Changes in mean weight and length at age		Y	N	Partly	N	Y (Partly)	Y(Partially)	Partly	N	Y	Y
o Changes in discard rates, catchability		Y	N	Y	N	Y (Partly)	Y	Partly	N	N	Y
o Changes in catch rates		Y	N	Y	N	Y (Partly)	Y	N	N	N	Y
• Length – weight relationship. Find outliers		Y	Y	Y	N	Y	Y	N	Y	N	Y
• Otoliths – consistency plots – can cohorts be followed (age – age +1), length at age, weight at age		Y	N	Y	N	Y (Partly)	Y	Partly	N	Y	Y
• Species – checking species codes in relation to caught weights and area		Partly	partly (only in relation to weights)		Y	Y	N	Y	Y	Y	Y
Raising											
• Use of appropriate auxiliary (raising) variables, there should be a positive correlation between what you need to raise with what you are raising with.		Y	N	Y	N	Y (Assumed)	Y	Y	?	N	?
• Compare the raised values with last years values for the same strata		Y	Y	Y	N	Y	N	Y	Y	Y	Y
Observer trips											
• Weights of samples and landings provided could be obtained in a number of different ways including; actual weights, volumetric estimate, or a guestimate. Check with total calculated weight from a length weight relationship applied to the length frequency distributions.		Y	Y	y	N	N	Y	Y	N	N	partly
• Compare the logbook information from the observer trip with sales slip		Y	N	N	Y	N	Y	N	Y	N	Y
• Check the observers record of the gear with the official logbook and any regulations for that area		Y	partly	y	N	N	N	N	Y	Y	Y
Scentific surveys											
• Plot planned stations and conducted stations on the same map		Y	not useful!!	Y	N	Y	NA	Y	Y	Y	Y
Annual reports										N	
• Internal QA reports?		annual worksh	N	Y	N	Y	N	partial	In prep.	In prep.	N
• Quality indicators		Y	N	N	N	In prep.	N	N	N	N	N
• Effective sample size.		Y	N	N	N	N	N	N	N	N	N
• N on response rates		Y	N	N	N	In prep.	N	N	Y	N	N

Annex 8: Monitoring the impact of the landing obligation on data collection in the NA

		UK_England	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	Not tested	Not tested
	Sampling procedures	No	Not tested
	If yes - how? If no - why not?	We currently do not sample these fisheries.	Our sampling sheets are generic and will record BMS landings as another category of landings. We have reviewed our systems and will be able to add the category of landings to the 'Source' on the database. We will need to change the size validity checks to allow these data to be entered. We do not know how these landings will be treated at each landing point yet.
2	*Has the MS successfully adapted their offshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?	We currently do not sample these fisheries.	Catch quota vessels (CCTV pilot) have been sampled as part of the current observer programme and the retained unwanted component is given a specific category code. The database can handle the length data. The generic sample sheets do not need changing. The database does need to be ammended to accept the age data for this category.
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	No	Not tested
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	Yes	Yes
	If yes - what? Percieved, annecdotal, measureable?	Only percieved - a slight increase in refusal rates for other fisheries sampled. Possibly an indication of discontent overall rather than directly as a consequence of the landing obligation.	The fisheries affected by these landing obligations will fall within our observer programme 2016. It is unknown how the enforcement of this obligation will affect our access.
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Yes	Yes
	If yes - what? Percieved, annecdotal, measureable?	From discussions with control agency reps. Our National database has BMS code and facility for including this data. Have not reviewed what has been recorded for these fisheries. It is unclear how the sales note data currently used to monitor the under 10m fleet will be able to record the unsold component of the BMS landings.	Meetings have been proposed between the Control agencies and NCs and Science agencies to review how this data might be managed or extracted in a useable form.
	If no - why not?		
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	No	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	No	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	No	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	No	
	If yes - what?		

		UK_Scotland	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS successfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	Not tested
	If yes - how? If no - why not?	Sampling procedure has been tested but not extensively. No need to modify sheets	Database and sheets will need to be modified
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?	No pelagic sampling programme	no 'unwanted demersal catch' has been landed yet
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	No	Not tested
	If yes - what? Percieved, annecdotal, measureable?	not convinced that the pelagic sp are unwanted - or just unacceptable for human consumption	
	Offshore	Not applicable	Not tested
	If yes - what? Percieved, annecdotal, measureable?		
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Yes	Not tested
	If yes - what? Percieved, annecdotal, measureable?	tonnes appear in logbooks (tonnes sent to fishmeal). No idea if discard data can be collected or if it's noted by boat (unlikely)	
	If no - why not?		
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	Not applicable	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	Not applicable	
	If yes - what?		

		France	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?		
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?		Pilot study in NS&EA (VIId, IVc)
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	Not applicable	Not applicable
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	Not applicable	No
	If yes - what? Percieved, annecdotal, measureable?		Fishermen organisations are involved in the study
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	No	No
	If yes - what? Percieved, annecdotal, measureable?		
	If no - why not?	Few vessels concerned	No information about this issue
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	Yes	
	If yes - what?	Demersal trawlers pending 2016	

		Germany	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?	No onshore programme in place. Local landings are insignificant. Most landings abroad.	No onshore programme planned. All landings abroad.
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	Yes	Not applicable
	Modified databases	Yes	Not applicable
	Sampling procedures	No	Not applicable
	If yes - how? If no - why not?	Included additional fields on sample sheets and additional fraction included on the database. Sampling procedure covers each of the fractions at sea.	
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	Not applicable	Not applicable
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	No	Not applicable
	If yes - what? Percieved, annecdotal, measureable?		
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Yes	Yes
	If yes - what? Percieved, annecdotal, measureable?	Review of landings data include BMS for some trips.	
	If no - why not?		
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	no	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	no	
	If yes - what?		

		Ireland	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	No	No
	Modified databases	No	No
	Sampling procedures	No	No
	If yes - how? If no - why not?	Changes to the protocols, data sheets and databases are in discussion. However BMS landings can be noted and sampled but not currently uploaded.	Changes to the protocols, data sheets and databases are in discussion. MS also taking into consideration a pilot study on the SSSS for 2016
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	No	Yes
	Modified databases	No	Yes
	Sampling procedures	No	Yes
	If yes - how? If no - why not?	Current data sheets and databases can accommodate the noting of BMS landings. Feedack from the samplers is that not much has changed on the ground. Further changes will be made before the onset of the 4th Quarter fishery to fuly capture this data	In 2014 & 2015 trials were carried out by fishing vesselswhich simulated fishing under the LO regime, as a result modifications have been made to to accommodate the new protocols and resulting data and will be ready for implementation in 2016
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	No	Not applicable
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	No	Not applicable
	If yes - what? Percieved, annecdotal, measureable?		observers are reporting that the LO is generating substantial uncertainties within the Irish fleet, and that this may potentially lead to access issues once the LO is introduced into demersal fisheries
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*		Not applicable
	If yes - what? Percieved, annecdotal, measureable?		Not applicable
	If no - why not?		Not applicable
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	No	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	No	
	If yes - what?		

		Netherlands	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		Not relevant to NLD
	Modifed sample sheets	No	Not applicable
	Modified databases	No	
	Sampling procedures	No	
	If yes - how? If no - why not?	Not necessary	
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	No	
	Modified databases	No	
	Sampling procedures	Yes	
	If yes - how? If no - why not?	Sampling procedures are changing as catch-processing on board has changed.	
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	No	
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	No	
	If yes - what? Percieved, annecdotal, measureable?		
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	No	
	If yes - what? Percieved, annecdotal, measureable?		
	If no - why not?	As far as we know, this has not occured so far	
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	Yes	
	If yes - what? Percieved, annecdotal, measureable?	We are in a transitions phase: in the process of adjusting the protocol, observers are finding methods for optimal sampling, catch sorting process on-board has change, destination of former discards is different.	
	Control data - Landings data (logbook, sales notes)	Not tested	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	Yes	
	If yes - what? Percieved, annecdotal, measureable?	This is solely based on annecdotal information.	
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	No	
	If yes - what?		

		Spain_AZTI	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	No	
	Modified databases	No	
	Sampling procedures	No	
	If yes - how? If no - why not?	MS exempted	
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	No	
	Modified databases	No	
	Sampling procedures	No	
	If yes - how? If no - why not?	MS exempted	
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	Not applicable	
	If yes - what? Percieved, annecdotal, measureable?		
	Offshore	Not applicable	
	If yes - what? Percieved, annecdotal, measureable?		
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Not applicable	
	If yes - what? Percieved, annecdotal, measureable?		
	If no - why not?	MS exempted	
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	NO	
	If yes - what? Percieved, annecdotal, measureable?		
	Control data - Landings data (logbook, sales notes)	NO	
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	No	
	If yes - what? Percieved, annecdotal, measureable?		
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	Not applicable	
	If yes - what?		

		Spain_IEO	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	NO	-
	Modified databases	NO	-
	Sampling procedures	NO	-
	If yes - how? If no - why not?	No changes detected in procedures of fisheries landings	
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	NO	
	Modified databases	NO	
	Sampling procedures	NO	
	If yes - how? If no - why not?	Very few discards in IEO Pelagic métiers with implementation in 2015. No necesary for 2015.	
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	Not perceived. Same problems as usual.	
	If yes - what? Percieved, annecdotal, measureable?	-	
	Offshore		
	If yes - what? Percieved, annecdotal, measureable?	Same problems as usual	Problems are expected to significantly increase. The work of the observers may not be increased due to the economic precariousness of sampling on board.
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	Any evidence.	
	If yes - what? Percieved, annecdotal, measureable?	-	
	If no - why not?	-	
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates		
	If yes - what? Percieved, annecdotal, measureable?	It is expected that the random selection of trips will be affected. IEO expects a sharp decline in the randomness .	
	Control data - Landings data (logbook, sales notes)		
	If yes - what? Percieved, annecdotal, measureable?		
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	NO	
	If yes - what? Percieved, annecdotal, measureable?	However, in some fleets it has seen a strong reduction in the catch of species with high levels of discards (Horse mackerel, Great Silver-smelt, etc). The cause is unknown	
	If measureable - have you or will you need to account for this in your programme?		
7	*Is the MS doing any analysis for any observer effect*	NO	
	If yes - what?		

		Portugal	
		Current	Pending
		2015	2016
	Landing obligation	Pelagic and Industrial	Haddock, Nephrops and Hake
1	*Has the MS sucessfully adapted or implemented their onshore sampling programme?*		
	Modifed sample sheets	NA	No
	Modified databases	NA	No
	Sampling procedures	NA	No
	If yes - how? If no - why not?	MS exempted	Discard management plan under definition
2	*Has the MS successfully adapted or implemented their offshore sampling programme?*		
	Modifed sample sheets	NA	No
	Modified databases	NA	No
	Sampling procedures	NA	No
	If yes - how? If no - why not?	MS exempted	Discard management plan under definition
3	*Has there been issues getting access to vessels and all components of the catch and landings (incl. BMS landings)?*		
	Onshore	NA	NA
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	NA
	Offshore	NA	NA
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	NA
4	*Is their any evidence that your control agencies can collect data on the new landing fraction and additional data on discards?*	NA	Stakeholders are required to register the amount of catches that fall under The LO as well as discards
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	Data will be collected through the addition of a new field in the electronic logbooks. When boarded for inspection, quantities must be measurable onboard against records
	If no - why not?	MS exempted	NA
5	*Is there any evidence of an effect on the quality of data?*		
	Discard estimates	NA	
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	
	Control data - Landings data (logbook, sales notes)	NA	
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	
6	*Is there any evidence of a change in fishing behaviour? Technical (fishing gear, sorting processes) and tactical (fishing grounds and seasons)?*	NA	
	If yes - what? Percieved, annecdotal, measureable?	MS exempted	
	If measureable - have you or will you need to account for this in your programme?	MS exempted	
7	*Is the MS doing any analysis for any observer effect*	NA	
	If yes - what?	MS exempted	